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**Subscription Rates**—One year, $1.00; two years for $1.50; three years, $2.00. Single copy, 10 cents. Canadian and foreign subscriptions, one year, $1.25; two years for $2.00; three years, $2.75. **Discontinuance**—Subscription stopped on expiration. No subscriber will be run into debt by us for this journal. **Change of Address**—Give your old address as well as the new and write the name to which the journal has heretofore been addressed. **Remittance** should be sent by postoffice money order, bank draft, express money order or check. **Contributions to Gleanings** columns solicited; stamps should be enclosed to insure return to author of manuscript if not printed. **Advertising Rates**—Advertising rates and conditions will be sent on request. **Results** from advertising in this journal are remarkably satisfactory. **Advertisers' Liability**—While the publishers do not guarantee advertisements in this journal, they use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.
**Entered as second class mail matter at the Postoffice at Medina, O. Published monthly.**


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**The A. I. Root Company, Publishers, Medina, Ohio**

**E. R. Root and M. J. Deyell, Editors; M. W. Hobart, Assistant Editor; H. H. Root, Associate Editor; D. C. Babcock, Circulation Manager**

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| | |
|---|---|
| 2½-lb. cans, per reship. case of 24 | $1.05 |
| 2½-lb. cans, per carton of 100 | 3.60 |
| 5-lb. pails, per reship. case of 12 | .95 |
| 5-lb. pails, per carton of 50 | 3.15 |
| 5-lb. pails, per carton of 100 | 6.25 |
| 10-lb. pails, per reship. case of 6 | .75 |
| 10-lb. pails, per carton of 50 | 4.60 |
| 60-lb. cans, per case of 2 cans | .95 |
| 60-lb. cans, per carton of 16 | 5.25 |
| 60-lb. cans, in bulk, each | .33 |
| 24-oz. round glass jars, carton of 12 | .60 |
| 16-oz. round glass jars, carton of 24 | .95 |
| 8-oz. round glass jars, carton of 24 | .70 |
| 2-lb. bee-hive glass jars, carton of 12 | .70 |
| 1-lb. bee-hive glass jars, carton of 24 | .95 |
| ½-lb. bee-hive glass jars, carton of 24 | .75 |

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August Lotz Company

Boyd, Wisconsin

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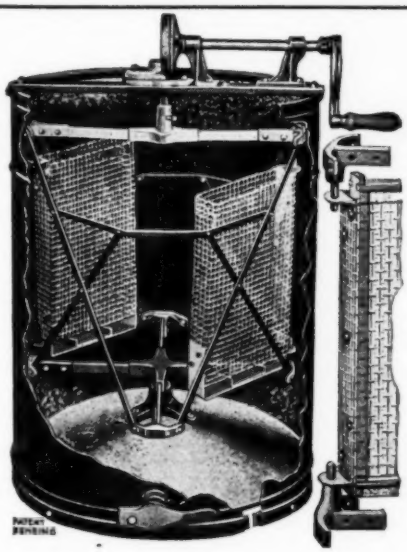

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## *Removable Reversible Baskets*

can be lifted out to disinfect in boiling water, in disease control. This is important for your protection. An ounce of caution is worth a pound of cure.

Not a drop of solder used in basket and reel construction. Riveted to last, can't come apart.

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## A. G. Woodman Company

GRAND RAPIDS, MICH., U. S. A.

# Honey Markets

**Information from Producing Areas (first half of July)**

**California Points:** Southern California—Temperatures during this period have been below normal along the coast but normal in the interior. Rainfall has been negligible. The drouth continues. Many beekeepers have joined the migratory ranks. Frequently beekeepers are not financially able to buy needed feed and some are appealing to the government for relief. Brood-rearing is heavy in strong colonies. There are many colonies already starving. Colonies are still being moved to the lima bean and cotton fields. Stocks of honey are light and most beekeepers are holding firm unless forced to sell in order to secure funds to pay current bills. Inquiry for honey is more active with price advances reported for most grades. Sales by beekeepers, per lb., follow: Orange, extra white to water white, 5¼-5¾c, few lots higher, mostly 5½c; white, 5¼c, few 5c and few higher; light amber, 4½ 4¾c; sage, extra white to water white, 5¾ 6c; white mostly, 5½c; light amber, 4¾-5c, mostly 5c; sage-buckwheat, white, 5-5½c; light amber mostly 5c; few sales light amber buckwheat, 4½-5c; Imperial Valley light amber alfalfa, few sales mostly 5c. Beeswax has been in good demand at generally unchanged prices, with prevailing offers for good yellow wax, 16½-17c; few, 17½c; poorer quality wax, 16c per lb. delivered Los Angeles. Central California—Bees are working on alfalfa and spikeweed but they do not yield normally. Near the coast in the irrigated areas bees continue to more than make a living and some surplus comb and extracted is being removed. Sales reported, orange, white to water white, 5½-5¾c; some, 6c; white, 5-5½c; light amber alfalfa, 3¾-4¼c per lb.; sage, extra white to water white, 6c. No recent exports reported. Northern California—The outlook for alfalfa honey in the Sacramento River Valley is poor, with no extracting done so far. The hot days are favorable for nectar secretion by thistle plants. Colonies have yielded from 10 to 30 pounds of amber mixed honey from various wild flowers. Few sales reported extracted, mixed flowers, amber, 4c per lb.; light amber, 4¼c; extra light amber lippia, 4½c per lb.; white thistle comb, 13-oz., wrapped, $3.00 per case. Beeswax is about steady at 16-17c per lb.

**Pacific Northwest:** West of Cascades—Some beekeepers report vetch and alsike yielding up to 150 pounds surplus while others report only 25 to 50 pounds. Bees still working on salal, English mullein, clover and sorrel. Few sales light amber mixed, reported at 8c per lb. East of Cascades—Some beekeepers report 30 lbs. surplus to the colony from various early flowers. Sweet clover prospects are excellent here, however, and a bumper crop from sweet clover and alfalfa is anticipated from bees that were not poisoned. Sales of light amber mixed reported in small pails, 8c per lb.

**Intermountain Region:** Carlots of old crop honey are now practically cleaned up. Inquiries are more numerous, however, with prospective buyers willing to pay higher prices for such honey as can be secured. The local demand remains fairly good. This year's crop of honey will be short almost everywhere due to lack of moisture, weevil damage, and grasshoppers. A little new honey is already available, at somewhat higher prices and demand is good. Few sales white sweet clover and alfalfa, extracted 60's, 5-5½c; small pails, 6-7½c per lb.; light amber, 60's, 5-5½c; small pails, 6c per lb.

**Southwestern States:** South Central and Southwestern Texas—There is practically no carry-over of old crop honey. New crop honey is of excellent flavor and practically water white, but the yield is reported 25 per cent of normal. Sales reported of extracted in small pails at 6½-8½c per lb.; bulk comb, small pails, 8-9c; glass jars, 10c per lb. Large lot, extracted sold at 5c per lb., containers furnished.

**Arizona**—A light flow is on now from alfalfa, cotton and tamarack, although weather conditions are still unfavorable because of insufficient rainfall. Bees are in good shape. Inquiry reported for honey at slightly increased prices, but little remains unsold. Light amber to extra light amber alfalfa reported sold at $5.00-5.50 per case of 120 lbs.

**Plains Area:** South Dakota—Rainfall has improved prospects, and some surplus is now anticipated after bees build up. Demand for honey is increasing with the scarce supply. Iowa—In favorable areas bees have already stored a surplus of 60 to 100 pounds and more is anticipated. Little old honey remains unsold. Nebraska—A flow from alfalfa and sweet clover has been on and a fair crop is now being taken off. Some colonies will need honey from a fall flow if they are not to be fed for winter and the general average may be only half of last year's crop. Buyers are already offering 6c or ¼c per lb. over last year's price. Few sales sweet clover in 60s reported at 6½c per lb.

**East Central and North Central States:** Michigan, Wisconsin and Minnesota—Many beekeepers in favored areas will obtain a fair-sized crop, but a great many others do not look for half a crop. Comb honey will be short this year as a result of the irregular flow. Prices already are higher than they were last year, and the market is firm to strong. White extracted has sold in large lots at 6⅔-8c per lb.; 1 carlot, 6½c per lb.; small pails, 8½-9c per lb. No. 1 white comb has moved at $2.40-3.65 per case; fancy high as $4.00; cut-comb, cases of 2 doz. 5-oz. cakes, $1.50 per case. Beeswax has sold at 16c per lb. cash, 18c in trade. Ohio, Indiana and Illinois—From central Ohio through Indiana sufficient rain has fallen so that reports come in of 100 to 200 pounds of clover surplus already. In some of the drouth areas deep-rooted sweet clover plants have continued to produce honey of high quality. Demand is reported better than normal for this season. Sales reported: White extracted, 60's, 8-9c per lb.; amber 60's, 4½-7½c per lb.; small pails, 9c per lb.; No. 1 white combb, $3.00 per case; few higher and some lower. Beeswax, 17-18c per lb. cash, 20c per in trade; few lots higher.

**Northeastern States:** New York—Many colonies have been too weak to take advantage of the flow and have been building up slowly. Basswood is just opening and gives promise of furnishing a good crop of honey, and a large acreage of buckwheat will provide a late flow. Sales reported, white extracted, large lot, 7c per lb.; 60's, 8c per lb.; small pails, 12c per lb.; buckwheat, small pails, 9c per lb.

**South Atlantic** States: Maryland—A honey flow is still continuing from sweet clover, though the flow from white clover and sumac is over. Swarming was less than usual. Rain is badly needed and lack of rainfall cut short the sumac flow. Virginia—Strong colonies have over 150 pounds surplus as one of the best flows in years is nearing the end. Honey is selling slowly, especially comb honey. North Carolina—Sourwood and dwarf bay are in full bloom but are yielding lightly, only a few hours in the late afternoon. Sales of white comb honey reported at $3.00 per case.

**Southeastern Section:** Georgia—Seasonable rains still prevail. Mexican clover is growing and some plants are already yielding nectar. Velvet beans are growing rapidly and field peas are coming into bloom. Honey is moving more rapidly, but principally in small shipments as large buyers are holding back as a result of the 1c per pound increase in the selling price. Florida—The short tupelo crop in northern Florida is said to be in such good demnd that stocks are decreasing rapidly. Production ranged from 30 to 40 per cent in different sections. One carload fancy tupelo in 60's reported sold at 7c per lb.; one carload amber in barrels at 4½c per lb., and one small car mixed flowers, 5½c per lb.; ton lot fancy tupelo, 6½c per lb. In central

and southern Florida cabbage palmetto is not blooming and bees are inactive. The thistle flow is about over. Sales reported, small pails extracted, 6½c per lb.; glass jars bulk comb, 10¼c per lb.

**Summary:** Honey prospects have improved markedly during this period in the clover belt from Minnesota and Iowa east to New York, as the result of frequent rains (except that Illinois and eastern Ohio are still in a serious condition), and strong colonies will often have an average crop of extracted honey, though comb prospects are light. Unfortunately many colonies were so weak that they have built up on the flow instead of before it and will have to make their surplus now from sweet clover and other plants which continue blooming. Basswood yielded well but irregularly in this area. Nebraska reports half a crop but bees in Kansas are making little more than a living. In the mountain states, northern Colorado, western Montana and parts of Nevada report a good yield but elsewhere the crop is hardly fair, though spotted. Alfalfa and thistle prospects are less encouraging in northern California; spikeweed and alfalfa are yielding lightly in central California; and in southern California hundreds and perhaps thousands of colonies will starve unless fed. The Pacific Northwest obtained a good early crop, but fireweed is yielding lightly. The crop in the southern states from Texas to Georgia is light, ranging from 25 to 75 per cent of normal. Stocks of honey are among the lightest in many years at this season, with beekeepers generally holding remaining lots firmly for higher prices. Large buyers are endeavoring to contract for 1934 crop in advance of extracting, especially in the far West, but few sales reported. Many beekeepers are asking 1c to 2c per pound more for honey than they were a year ago. Export sales are very light.

# Monthly Report of Honey Producers

Early in July we sent the following questions to honey producers: 1. How does the honey flow (if any) thus far compare with normal? Give answer in per cent. 2. What is your estimate at this time of the 1934 honey crop in your region as compared with the average during the past five years? Give answer in per cent. 3. At what price has honey been sold, or contracted for,, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound? (b) comb honey,, fancy and No. 1 per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per case? 5. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 6. How is honey now moving on the market in your locality? Give answer in one word as slow, fair or rapid. 7. Is there any of last year's honey left in the hands of producers in your locality? If so, what per cent of last year's crop was carried over. The answers received are as follows:

| State. Name. | Estimate Honey flow. | 1934 crop. | Large lots. Ex. | Comb. | To grocers. Ex. | Comb. | To retailers. Ex. | Comb. | Movement. | 1933 carryover. |
|---|---|---|---|---|---|---|---|---|---|---|
| Ala. (J. C. Dickman) | 100 | 100 | | | .40 | | .55 | | Fair | 0 |
| B. C. (A. W. Finlay) | 125 | 150 | .10 | | .65 | | .77 | | Fair | 0 |
| Calif. (L. L. Andrews) | 7½ | 20 | .05¼ | | | | .62 | | Fair | 5 |
| Calif. (F. J. Edwards) | 100 | 90 | .04½ | | | 3.00 | .37 | .15 | Slow | 1 |
| Colo. (O. E. Adcock) | | | | | .42½ | | .50 | | Fair | 0 |
| Colo. (J. A. Green) | 65 | 65 | | | .32½ | 1.75 | .35 | .10 | Rapid | 5 |
| Conn. (Allen Latham) | 125 | 500 | | | .80 | 5.00 | 1.00 | .25 | Fair | 10 |
| Conn. (A. W. Yates) | 100 | 50 | | | | | | | Slow | 0 |
| Fla. (C. C. Cook) | 50 | 50 | .05 | | .35 | | .47½ | | Fair | |
| Ga. (J. J. Wilder) | 25 | 20 | .06 | | .45 | | .55 | | Fair | 0 |
| Idaho. (Ryon R. Isbell) | 80 | 100 | .05½ | | .34 | | .42 | | Fair | 1 |
| Ill. (A. L. Kildow) | 10 | 20 | | | | | .50 | | | 0 |
| Ind. (Jay Smith) | 75 | 100 | | | | | .60 | .20 | Slow | 0 |
| Ind. (T. C. Johnson) | 80 | 100 | | | .50 | 3.60 | .60 | .20 | Slow | 0 |
| Ind. (E. S. Miller) | 25 | | | | .45 | 3.00 | .60 | .15 | Slow | 0 |
| Iowa. (E. G. Brown) | 100 | 100 | | | | | .50 | | Fair | 0 |
| Iowa. (F. Coverdale) | 50 | 50 | | | .50 | | | | Fair | 0 |
| Kans. (J. F. Garner) | 10 | 25 | | | .40 | 3.00 | .50 | .15 | Fair | 0 |
| La. (E. C. Davis) | 75 | 90 | .05½ | | .35 | | .50 | | Fair | 5 |
| Me. (O. B. Griffin) | 90 | 100 | | | | | | | Slow | 10 |
| Md. (S. G. Crocker) | 200 | 200 | | | .60 | 3.50 | .75 | .25 | Slow | 10 |
| Mich. (I. D. Bartlett) | 100 | 85 | | | .50 | | .60 | | Fair | 0 |
| Mich. (L. S. Griggs) | 60 | 50 | | | | | .55 | | Fair | 0 |
| Mich. (F. Markham) | 25 | 20 | | | | | .60 | .16 | Fair | 0 |
| Mich. (E. D. Townsend) | 60 | 60 | .08½ | | | | | | | |
| Minn. (Francis Jager) | 100 | 110 | .07½ | | | | | | Good | 0 |
| Minn. (F. W. Ray) | 50 | 50 | .06½ | | .40 | | .55 | | Fair | 0 |
| Minn. (B. L. Morehouse) | 50 | 65 | .06 | | .45 | | .60 | | Slow | 10 |
| N. Y. (Geo. B. Howe) | 75 | 100 | | | | | .50 | .25 | Fair | 0 |
| N. Y. (F. W. Lesser) | 150 | 150 | | | | | | | Fair | 1 |
| N. C. (W. J. Martin) | 100 | 100 | .05¼ | | .60 | 2.00 | .75 | .25 | Fair | 0 |
| N. D. (M. W. Cousineau) | 40 | 45 | .06 | 3.50 | | 4.00 | .57 | .20 | Rapid | 0 |
| Ohio. (Fred Leininger) | 125 | 125 | | | | | | | | 0 |
| Ohio. (J. F. Moore) | 100 | 125 | | | .45 | | .60 | | Fair | 0 |
| Okla. (C. F. Stiles) | 20 | 20 | | | .60 | | .70 | .18 | Fair | 0 |
| Ore. (H. A. Scullen) | 70 | 20 | | | | | | .15 | Fair | 0 |
| Pa. (D. C. Gilham) | 125 | 150 | | | .75 | 4.25 | 1.00 | .25 | Slow | 8 |
| S. C. (E. S. Prevost) | 80 | 80 | | | .65 | | .75 | .20 | Fair | 0 |
| S. D. (L. A. Syverud) | 30 | 50 | | | .41 | 3.00 | .55 | .16 | Slow | |
| Tenn. (J. M. Buchanan) | 75 | 75 | | | | | .75 | .20 | Slow | 0 |
| Texas. (T. A. Bowden) | 25 | 25 | | | .45 | | .55 | | Fair | 0 |
| Texas. (H. B. Parks) | 20 | 75 | .05 | | .40 | | .45 | | Fair | 0 |
| Va. (T. C. Asher) | 33 | 40 | | | .50 | 3.00 | .65 | .18 | Fair | 2 |
| Wash. (G. W. B. Saxton) | 100 | 100 | | | .37½ | | .45 | | Fair | 0 |
| Wis. (N. E. France) | 70 | 80 | | | | | | | Fair | 12 |

# REQUEEN NOW

Young queens introduced now will reduce your winter loss and increase your crop next year. Try our young Superior Italian Queens. There is no profit in old Queens. We have just finished requeening every one of our colonies.

Club your orders with your neighbors or associations and get the lower rate.

## Prices

| 1-9 | 10-24 | 25-49 | 50-99 | 100 or more | 250 or more |
|---|---|---|---|---|---|
| $.70 | $.65 | $.55 | $.50 | $.45 | $.42½ |

——Send us your Rush Orders——

Let us quote you on your requirements on Bee Supplies. We can save you money.

## Free Free
## CANADIANS

To date not a single Canadian has taken advantage of our Free Queens offered last month. You must have thought it was not meant for you. We will never leave our Canadian friends or customers out of anything. In order to give our Canadian friends another chance, we are making the offer again.

For the first 100 to send $1.00 or more to the support of the American Honey Institute, we willl send absolutely free two Superior Italian Queens. This offer is for the first 100 from anywhere sending $1.00 or more to the Institute.

We have sent to date on the other offer 254 queens, which netted the Institute $137.50. We hope you will take this offer up quick.

AMERICAN HONEY INSTITUTE, YOUR BEST FRIEND.

## The Stover Apiaries, Tibbee Station, Miss.

# Honey Containers

**FRICTION-TOP PAILS** Wt. Price.
5-lb. pails, 50 in dustproof cart. 26 lbs. $3.25
10-lb. pails, 50 in dustproof cart. 40 lbs. 4.75

**60-LB. SQUARE CANS**
Bulk in lots of 50 or more.....30c each
Bulk in lots of less than 50.....32c each
Two 60-lb. cans in wood case—1 to 9 cases, $1.10 per cs.; 10 cases or more, $1.00 per cs.

**CRATES OF 2/60-LB. GOOD USED CANS**
(Subject to being unsold.)
Two 60-lb. cans in wooden case—1 to 9 cases, 65c per cs.; 10 cases or more, 60c per cs.

**COMB HONEY SHIPPING CASES**
Made of clear white pine, attractive appearance, glass fronts.
10 to 50 K. D., 24-lb., 2-inch glass. $4.40 for 10

**ALL CELLOPHANE WRAPPERS**

| For size section. | Mailing Wt. | Per 100 | Mailing Wt. | Per 500. |
|---|---|---|---|---|
| 4¼x4¼x1⅞ | 1 lb. | $1.00 | 3 lbs. | $4.50 |
| 4¼x4¼x1½ | 1 lb. | 1.00 | 3 lbs. | 4.50 |
| 4 x5 x1⅜ | 1 lb. | 1.10 | 3 lbs. | 5.00 |

**ATTRACTIVE GLASS HONEY JARS**

This season we offer the prettiest modernistic Honey Jars. They are more flat than round.

Show honey to the best advantage.

Modernistic Jars in corrugated paper reshipping cases, 24—16-oz. jars, $1.10 per case; $1.00 per case, ten cases or more.

## Mid Season Special for July, August and September Only

**HERCULES WIRED BROOD FOUNDATION**
**(Built like a bridge—hangs like a picture)**
1—25-lb. box wired foundation, 8 9/16x16¾ .....$12.00
1—25-lb. box wired foundation, 8x16¾ . 12.00
1—25-lb. box plain brood foundation, (best quality), 8 9/16x16¾ ..... 11.00
1—25-lb. box plain brood foundation, (best quality), 8x16¾ ..... 11.00
1—25-lb. box MILL RUN Plain Brood Foundation, 8 9/16x16¾ ..... 10.00
1—25-lb. box MILL RUN Plain Brood Foundation, 8x16¾ ..... 10.00

**THIN SURPLUS FOUNDATION**
**Sizes 3⅞x16, 4½x16½, 3 11/16x14¼**
1— 5-lb. box Thin Surplus Foundation. $ 3.00
1—25-lb. box Thin Surplus Foundation.. 13.75

**10-FRAME 1-STORY HIVES, COMPLETE**
**But No Foundation.**
5—10-fr. Metal Roof Cover Hives, 1-story, $14.50
5—10-fr. Excelsior (Wood) Cover Hives, 1-story ..... 12.25

**Ship your old comb and cappings to us for rendering. Our charges are nominal, 2c a pound for the wax rendered when your old comb weighs 100 lbs. or more and 3c a pound when they weigh less than 100 lbs.**
**We are always buying Extracted Honey, also Comb Honey. We remit the day your shipment is received. We ship the day order is received.**

## The Fred W. Muth Co., Pearl and Walnut Sts. Cincinnati, O.

## Safe Introduction of Queens Now Guaranteed

Special cage. Special Method. Instructions sent with queen. Another queen free if you fail. Carefully selected stock, well reared, sure to please. Order all you need, we have plenty surplus queens. Packages to those needing them. Lowest code prices.

Please remember that 45 to 70% of queens introduced by average queen buyers are lost with the methods usually used. This is going over fine for those who can follow directions carefully.

**L. L. FEREBEE, PINELAND, S. C.**

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**CARLOADS OR LESS CARLOAD QUANTITIES**

**White or Extra Light Amber Grading**

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**230 PARK AVENUE NEW YORK CITY**

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Since the Institute was organized, Dadant & Sons and the American Bee Journal have contributed in cash and advertising more than $6300; this does not include the countless letters we have written in behalf of the Institute—nor the time of members of our staff who have continually boosted for the Institute—nor cash paid for traveling wholly in the interest of the Institute.

## Why Do We Spend It?

Not because we are just "good fellows" but because we believe it to be a good investment. Because we believe that the Institute can do more for "Honey" than we can if we were to spend the money ourselves. **We feel certain that the Institute is responsible for the unusual demand for honey.** In spite of recent large crops and lack of exports the markets are practically bare of honey but are glutted with other products. **We believe that every dollar we contribute will bring multiplied returns to our subscribers and our customers and finally to us.**

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Friend beekeeper, because you get the better demand and advanced prices for your own product.

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**AMERICAN HONEY INSTITUTE,**
**Box 2020, University Station, Madison, Wisconsin.**

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Name..... Address.....

**(Mail to American Honey Institute, Box 2020 University Station, Madison, Wis.)**

Gleanings in Bee Culture
AUGUST, 1934

### Bees Not a Nuisance is Again Proven in the Courts

According to the Philadelphia Record, "The busy bee had its shining hour in court." Judge Harry S. McDevitt skipped back over centuries of legal history citing legal precedents in denying an injunction to restrain Joseph Rexer from keeping bees on his property at 8062 Fairview street, Holmesburg, Pa.

It appears that Herbert D. Allman and Drue Allman, nurserymen, claimed "that Rexer's bees stung the Allmans, their employees, their guests, their wash and hot house flowers." The case has been hanging fire for some time.

The judge held that bees were not vicious by nature; that they were not a nuisance because they were bees; that there were other bees in the vicinity as well as those of Rexer's, and that no proof had been advanced that the Rexer bees were the offending ones.

The judge not only dismissed the Allmans' suit but ordered them to pay the costs and in addition to all this praised the bees for their industry.

There is nothing to show that Judge McDevitt keeps bees himself. His careful study of the legal history of like cases and of bee nature show that he acted strictly on the merits of the case. This decision is important as it is in line with others covering similar cases.

It appears that Dr. E. F. Phillips has been in correspondence with Rexer for some time and naturally he as well as all beekeepers are pleased at the outcome.

### The Case at Tracy, Minn.

On top of this we have another case of a similar nature. Assistant Attorney-General of Minnesota, David J. Erickson has ruled that an ordinance declaring bees a nuisance and excluding them from the city can not be legally drawn and he so notified Wm. R. Mitchell, city attorney at Tracy, Minnesota.

Attorney General Erickson cited the Arkansas supreme court decision, which held that neither the keeping, raising, nor owning of bees is a nuisance, and that this decision would apply to Minnesota.

Both of these decisions are important in that they add to the already strong array of precedents in favor of the bees.

### The American Honey Institute to Go On

The S. O. S. call put out by this and the other bee journals in behalf of the American Honey Institute has born fruit. Enough funds have been secured to carry the Institute through September; but if it is to go on after that, the funds must continue to come in. Those of us who know what the Institute is doing for honey feel that the one organization we have to boost honey must not be allowed to die for the want of support.

Remember this, it is not the tool of any allied interest. It is working for all beekeepers, north, south, east, and west.

### August the Important Month for Beekeepers' Meetings

It is expected that the Demuth Memorial meeting on August 1, 2, 3, 4, at Ypsilanti, Michigan (see page 480) and the Ohio beekeepers' meeting at Columbus, on the 9th and 10th will be particularly well attended. Announcement of the Kansas State Beekeepers' Association to be held on August 5, at Gage Park, Topeka, came too late to appear on our "Just News" page.

### Simplified Supering

There appears to be a tendency to make bee work difficult. During these days of low honey prices we must simplify apiary management as much as possible to reduce the cost of honey production.

Much time and energy can be saved by supplying extracting supers on top of the pile as needed, instead of lifting off the filled supers, to put the fresh super at the bottom of the pile, directly over the queen excluder. Supering on top works well when drawn combs are used and when a good honey flow is on. We suggest that beekeep-

ers try this method and be convinced of its merits. One can tell by looking into the top super whether or not another super is needed. With the old method the filled and partly filled supers had to be lifted twice to see if another super was needed.

### On to Valdosta Beekeepers' Congress

Remember the date of the Valdosta, Georgia, beekeepers' congress from December 17 to 20. It can be reached by a light automobile and good roads all the way, for 1½ cents a mile. This promises to be the biggest event for 1934, if not the biggest in the history of beedom.

When the meeting is over go on down into Florida where you can build up your health and live cheaper than in the cold North. Come back in the spring to home and bees. See "Just News", page 497.

### Retailing Honey in Five-Pound Pails

In the face of possibly the shortest crop in history, retailers in some localities are selling a five-pound pail of good honey for 35 cents. One report has come in of honey in five-pound pails selling at 29 cents. Just because there has been a good local crop of sweet clover, some of these roadside beekeepers are under the impression that they have got to sell at these figures or get nothing for their honey. Of course, such producers don't take a bee journal, don't attend bee conventions, much less do they get the government market reports that they could get for the asking.

### A Word of Warning to the Small Honey Packer or Bottler

Much of the honey sold in tin pails and bottles has been greatly injured by overheating, to prevent granulation. Not only may the flavor be impaired, but the color may be darkened from a light or white to an amber.

Most people who attempt to prepare honey for market do not know that the delicate flavor in honey can be retained if proper precaution is taken. First, honey should never be heated to a temperature higher than 160 degrees F. and when it reaches that point it should be cooled as quickly as possible. Again, honey should not be kept continuously hot for 24 hours or longer. Temperatures as low as 130 or even 125 degrees F. are dangerous if maintained too long. Every bottler or processor of honey for market should have a suitable thermometer. A dairy thermometer will do very well for the small bottler; but he should compare it with a tested thermometer to make sure that it reads correctly at the critical point, 160 degrees F. A much better instrument, one that will be reliable, can be had from the Taylor Instrument Co., Rochester, New York.

Guessing at a temperature or merely liquefying a granulated honey if it takes a long time to do it is always dangerous.

Some of the beautiful virgin flavors of honey as it comes from the extractor can be ruined if precaution is not taken. A dairy thermometer can be had for about a dollar; but don't rely on a cheap one unless you compare it with a tested thermometer.

### The Policy of Burning Endorsed

With just one exception, our letters show an endorsement of burning for foulbrood rather than shaking as outlined in our editorial, page 331, of our June issue, and again in the July number, page 402. We had expected some severe comebacks from a few of the old-timers. The surprise is that they are with us as well as the bee inspectors who have come to the conclusion that shaking has been tried and found wanting. Shaking has been making no headway; but where burning has been applied on the day of the discovery of infection the territory has been cleaned up **and stays clean.**

Gleanings confidently looks forward to the day when all the states in the Union will be as clean of foulbrood as Florida is today. That means that in the end there will be only a few burnings to take care of the few recurrences that will crop out. It means also that it will actually take less money and fewer inspectors than it does today. The inspectors will have to be high-class gentlemen who will persuade the owner of a diseased colony that burning is the only right and fair plan to himself and his neighbors who have bees.

The evidence is piling in that nurse bees shaken will scatter into nearby hives where there is brood rather than go into a strange hive on the old stand having only foundation. With their honey-sacs still full of honey they can and often do make the foulbrood situation much worse.

Fifty years ago in our own yards we came to the definite conclusion that the only thing for us to do was to take hive,

colony, and all at night down in front of our big boilers, and throw combs, bees, hives and all into the fire. The few bees that took wing would immediately go to the bright light and be consumed.

On this basis we cleaned up; but on the shaking plan we kept having recurrences, and no wonder.

Why didn't we advocate the burning policy earlier? Because at that time we would have been figuratively mobbed if we had. The time was not right for so drastic a policy.

Well, now, will the foulbrood inspectors lose their jobs? Yes, some of them; but the better class will need to be retained to look after the careless and incompetent beekeepers who need advice and help along the lines of better beekeeping. This kind of extension work is no small part of the service rendered today by our bee inspectors. Instruction goes hand in hand with the arm of the law that will seldom need to be enforced. Florida, thanks to Dr. Wilmon Newell of the State Plant Board, has cleaned out the citrus canker, the Mediterranean fruit fly, and now bee disease among the bees is getting to be very scarce.

**The Shortness of the 1934 Honey Crop**

Indications at present writing seem to show that the honey crop for 1934 may be the shortest in years. California will furnish only a small quota. The intermountain states will have a light crop. Most of the northern states east of the Mississippi with the exception of Ohio, Indiana and possibly New York, will have little or no honey. Parts of Iowa, Kansas and Nebraska will have some honey. The unprecedented drouth in May and June and the heavy winter loss have hit honey producers unusually hard.

On the other hand, there is reported from some of the sweet clover districts in Ohio and Indiana the heaviest crop in years. The yield in Ohio, says bee inspector Reese, is spotty—from an absolute failure to a bumper crop. There was a good yield in Florida, New Jersey and Vermont.

But these favored districts in the East can not make up for the shortage in California and the intermountain regions. As has often happened, the Rocky Mountain states may fair much better than present indications show. The full facts will not be known probably until September and October.

As was pointed out in our last issue, very little honey was left over from last fall. At the beginning of 1934 there were no large lots of honey available. It looks as if honey prices in car lots and in large and small lots ought to advance over last year. The cautious buyer will hold off until he can get more facts.

**The Lesson of Last May and June Drouths**

Beekeepers located in strictly white and alsike clover territory got hit pretty hard during early summer. Some of them moved into sweet clover territory and others more fortunate were already there. The Root apiaries were in both kinds of territory.

In late winter and early spring there had been heavy snows followed by copious rains. Then came the May and June drouths. The ground was parched and brown. Would it never rain again? White and alsike clover, shallow rooted plants, appeared to be dead but the long-rooted sweet clover and alfalfa reached down to the moisture supplied by the snow and early spring rains. They looked fresh; but it was evident that if rains did not come soon, they, too, would fail to furnish nectar.

These rains came in some favored localities, a few of which report the largest crops of honey in years. Late rains have made it possible in other localities to secure a light to a fair crop of sweet clover and alfalfa. Some beekeepers will be content if they receive enough honey to winter on without feeding.

A surprising thing is that white and alsike have come back in a few places as second crops and are yielding well. This is something that rarely happens. We have known that continuous rains would keep the clovers yielding from the middle of May to the middle of August.

These two clovers are surface rooted plants and copious rains will often make them respond just as they are doing at this writing (July 13) in and about Medina.

So far we have talked about long and short rooted plants. The former are represented by sweet clover and alfalfa, and the latter by white and alsike clover. They both require lime and where one will grow the other will sometimes with a little more lime. The lesson to the beekeeper is to locate where there are long and short rooted plants. The long rooted will stand

(Continued on page 498.)

# Genuine Honey Candy

Dr. E. F. Phillips

## A Honey Candy That Contains None of the Ordinary Sugars

Some months ago Mr. E. R. Root published the story of the work of Miss Nellie J. Stratton in devising confections in which honey is the only sweetening agent, and which marked a real advance in the making of honey candy. At the time that Mr. Root wrote his article, certain features of the new candy were secret, because patent protection had not then been obtained for her discoveries. There is no longer reason for secrecy, and, furthermore, some marked advances have since been made with this product and process. I shall not discuss the trials under which Miss Stratton worked, but it may be of interest to readers of Gleanings to get the latest news about the new candy.

### Ordinary Honey Candies Too Sticky

Some years ago Miss Stratton became convinced that a candy which contained none of the ordinary sugars and which was sweetened only with honey would appeal to dietitians, physicians and perhaps especially to discriminating mothers of young children. She set out to master the problems connected with the manufacture of such candy. When one examines ordinary recipes for making honey candy, it is clear that most of them are not genuine honey candy, for the chief constituents are usually cane sugar or dextrose, the honey being valuable chiefly for flavor. The reason for including the other sugars is obviously to overcome stickiness of the candy, since the levulose in honey has the property of absorbing moisture from the atmosphere, and this soon makes a straight honey candy too sticky to handle. If it were not for this characteristic of honey, it is obvious that much more honey would be used in candy manufacture than is at present the case, for the very word honey in the name of a candy would carry distinct advantages to the distributor. If it is necessary to add relatively large amounts of ordinary sugars to the honey to prevent stickiness, this defeats the purpose and is not something about which to boast.

### Adding Milk Sugar Prevents Stickiness

Miss Stratton first found that by adding a small proportion of milk sugar to honey she could obtain a candy which failed to develop stickiness. Milk sugar is not ordinarily used in the making of candy, although it is reported that it has been so used abroad to some extent. Milk sugar fills a rather special and unique place in the human diet. Like cane sugar, milk sugar is a double sugar (Dissaccharide), each molecule being composed of one molecule of dextrose and one of galactose. Human ability to digest and to assimilate milk sugar is distinctly limited, and in this fact lies the secret of the benefits derived from this sugar. That portion of milk sugar which is eaten but not assimilated passes unchanged to the large intestine, there undergoes fermentation through the action of lactic acid bacteria normally present in the colon, and is changed to lactic acid. The lactic acid in the colon then modifies the reaction of the colon contents and brings it to normal. This normal reaction inhibits the development of putrefactive bacteria and facilitates the further growth of fermentative bacteria, with beneficial results to the health. Whether this talking point for the inclusion of milk sugar can be used for promotion of the sale of Miss Stratton's candy is not clear, but no secret of the human body now remains unrevealed in advertisements. It is perhaps fair to express the hope that whatever advertising of this candy may later occur, it will not be placed in the class with many of the absurd and misleading advertising of foods, drugs, and cosmetics, and above all it is to be hoped that the candy will not be advertised as a "health candy."

Milk sugars form crystals readily. At ordinary temperatures about six parts of water are required to dissolve one part of milk sugar. At similar temperatures, dextrose is soluble in an equal quantity of water, whereas cane sugar is much more soluble. Levulose is the most soluble of all the ordinary sugars and rarely crystallizes from a water solution. This tendency of milk sugar not to stay in solution caused Miss Stratton some difficulty, for after her fondant was made, crystal formation sometimes continued,

and her candies became too hard. This puzzling problem she also met by further research.

**Whole Sweet Milk Also Used**

It was found that after a fondant is made by Miss Stratton's formula, relatively large amounts of whole sweet milk can be worked into the fondant by mere mechanical means. The milk need not be boiled and is used in its fresh, pure state. To understand what happens in this case, it is necessary to discuss somewhat the physical nature of a fondant. A soft candy such as a fondant consists of two distinct phases, a solid phase of small crystals and a liquid phase consisting of sugar solutions which adhere closely to the small crystals, giving the degree of firmness desired. To the surprise of those who worked with Miss Stratton's fondants, the solid phase consists solely of microscopically minute milk sugar crystals. One might have guessed that there would also be dextrose crystals present, from the dextrose in honey, but these do not occur and all the dextrose remains in the liquid phase. Granulated honey consists of a solid phase of dextrose crystals and a much more extensive liquid phase of a solution of levulose, dextrose, usually some cane sugar and whatever other ingredients occur in the honey. Ordinary granulated honey is not more than fifteen per cent solid, however firm the product may appear. When whole milk is worked into the Stratton fondant, it increases the liquid phase and since this liquid has the ability to dissolve milk sugar, the further formation of milk sugar crystals is inhibited.

The final candy, aside from whatever flavors may be added, then consists only of honey, milk sugar and sweet milk. It would strain one's imagination to conceive of a candy containing more desirable ingredients, and the candy as finally devised is a genuine honey candy, without the use of cane or corn sugar, and with milk and milk sugar the only ingredients used with the honey. A skilled and truthful advertising specialist should be able to create a good story about such a candy.

The basic difficulty of stickiness of honey candy now having been overcome by means of the use of two ingredients of high virtues, there would seem to be an avenue for an increased use of honey in candy making. So far this candy has not appeared on the market. At the very beginning of the depression, a small start was made in the manufacture of Miss Stratton's candies, but at that time she had not obtained adequate patent protection for this invention, and the addition of milk sugar had to be kept as a deep dark secret. Now there is no reason for secrecy. But the depression grew faster than the sale of these candies, so the effort was abandoned. Furthermore at that time Miss Stratton had not yet discovered the possibilities arising from the addition of whole milk, and so candies made by her present formulae have never been offered on the markets. It is to be hoped that some alert and extensive manufacturers of high class candies will shortly realize the opportunities which this invention offers for placing a candy of the highest quality on the American market.

**Manufacturers Must Know Honeys**

Every person who has tried to use honey in any manufacturing process has found it a tricky material to use. The trouble arises largely from the fact that the different honeys of the market differ in composition and especially in physical characteristics. As a result a manufacturer who wishes to use honey must learn to know honeys, and not many manufacturers have taken that much trouble. Miss Stratton has also encountered such difficulties, and she has so far been unable to use any honey for her candies except the highest quality clover honey, from white and alsike clover with not too much sweet clover. Other light honeys of the market have been tried and have failed to give proper results in either the texture or the flavor of the candies. While this limitation is to be regretted, it does not constitute a great obstacle to the candy manufacturer, since clover honey is produced in the United States in larger quantities than any other commercial honey. It does not appear on the wholesale markets to the extent of as many carloads, but the total is vast, so that any candy manufacturer who takes up the making of the milk and honey candy will have little difficulty in getting adequate supplies if he develops the right wholesale and producer contacts. The limitation to the lighter colored clover honey is somewhat unfortunate, for there are large amounts of light amber clover honey on the market which is of high quality. Still there are enough places in which white clover honey can be obtained to supply enormous candy manufacturing plants. Perhaps a way may later be found, through some modification

of the formulae, to use water white alfalfa and sage honeys, but so far these have not given satisfaction. When we know more about the physical qualities of our various honeys, some of these puzzles may be solved.

The beekeeping industry is to be congratulated that a way has at last been found to make a genuine honey candy. Each such step forward enlarges the possibilities of our markets. Just how soon honey will come to be used largely in honey candy can not be predicted, for that depends on market conditions and many other things outside the power of beekeepers to control, but at any rate there is now the possibility, under suitable economic conditions, to expand the honey market in one more direction.

Ithaca, N. Y.

# White Clover and Honeybees in Louisiana

**E. Oertel**

Assistant Apiculturist, Southern States Bee Culture Field Laboratory,[1] Bureau of Entomology, United States Department of Agriculture.

## More White Clover Seed Is Produced in Louisiana Than in All Other States Put Together

Beekeepers in most parts of the country are probably not generally aware of the fact that white clover (*Trifolium repens*) grows luxuriantly on the alluvial soils of Louisiana, particularly in the valleys of the Mississippi and Atchafalaya Rivers. There probably are few, if any, other parts of the country where white clover reaches such a perfection of growth as it does in Louisiana. Although most of the commercial beekeepers in Louisiana have their apiaries located in or near this alluvial section, relatively little is definitely known about the importance of white clover as a honey plant in this state. Probably white clover is not so valuable a honey plant here as it is in the North.

In order to learn more of the value of this plant to beekeepers and to determine to what extent honeybees visit the white clover bloom, several experimental plots of clover in different parts of the state were protected from the visits of honeybees so that the effects of bee visitation upon pollination might be ascertained.

Three sets of cages of equal size, placed in three different locations, have been used. Each set of cages consisted of one cage screened with wire cloth having 60 meshes to the inch, one cage screened with wire cloth having 6 meshes to the inch, and a check cage screened with chicken wire to prevent cattle from grazing on the enclosed clover. The 60-mesh wire prevented the entrance of any insect, the 6-mesh screen prevented the entrance of honeybees and other insects of the same size or larger. One set of cages was located

[1] A contribution from the Southern States Bee Culture Field Laboratory, Baton Rouge, La., maintained by the Division of Bee Culture Investigations, Bureau of Entomology, U. S. Department of Agriculture, in co-operation with Louisiana State University.

J. W. Newton's queen-yard, Baton Rouge, Louisiana.

near Patterson in St. Mary's Parish; the other two sets in East Baton Rouge Parish, one being near Gardere and one near Baton Rouge. The number of seeds set in each cage is given in Table I.

**TABLE 1—Results of experiments in the pollination of white clover at three locations in Louisiana.**

| | Seeds obtained in— | | | | | |
|---|---|---|---|---|---|---|
| | 60-mesh cage | | 6-mesh cage | | Check cage. | |
| Location of cages. | '32 No. | '33 No. | 1932 No. | 1933 No. | 1932 No. | 1933 No. |
| Patterson .. | 0 | * | 12 | * | 1,845 | * |
| Gardere ... | 5† | 0 | 240 | 102 | 8,580 | 1,200 |
| Baton Rouge | 0 | 0 | 895 | 5,350 | 9,690 | 35,050 |

*Cages removed by farm laborers during the growing season.

†Seeds very small and shriveled.

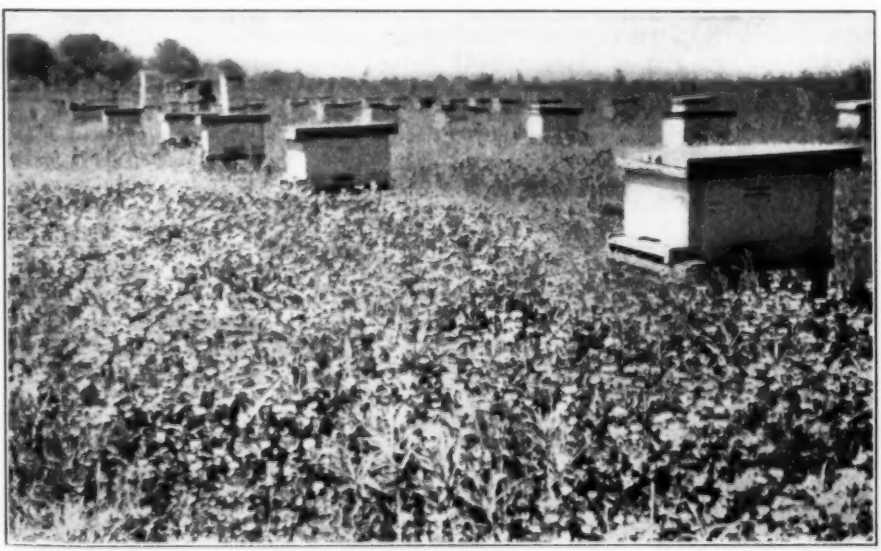
Williams[2] has shown that white clover is self-sterile when pollinating agents are excluded from the blossoms, and highly self-sterile when the florets are self-pollinated by hand. As practically no seeds were set in the 60-mesh cages, the results of the experiment herein reported are in accord with Williams' findings. Some seeds were set in the cages covered with 6-mesh wire, proving that insects other than honeybees pollinate the blossoms. The check plots, which were visited by bees and other insects, yielded far more seeds than the other plots. The activity and number of insects other than honeybees should be studied in more detail.

A number of observations of bee activity upon clover blossoms have strongly indicated that honeybees are much more abundant on clover blooms, in the daytime at least, than any other insect. The number of honeybees per square meter was found to range from 1 to 9 bees in a 5-minute period, with an average of 5 bees. Individual bees were seen to visit from 1 to 14 florets per blossom. These observations were made in weather both favorable and unfavorable for bee activity.

The approximate quantity of white clover seed produced for sale in Louisiana is given in Table 2. Besides the parishes listed in the table the following parishes also produce some seed: Ascension, Point Coupee, Lafourche, Saint Martin, Iberville, Concordia, and possibly others whose production was not determined. The Hay, Feed, and Seed Division of the Bureau of Agricultural Economics, United States Department of Agriculture, estimates that the total production in Louisiana in 1933 was 650,000 pounds. R. A. Wasson, Extension Agronomist for the State Agricultural College, Baton Rouge, La., has informed the writer that he estimates the production since 1930 at about 1,000,000 pounds per year, with the selling price ranging from 15 to 20 cents per pound. More white clover seed is produced in Louisiana than in all other states together.

The production of seed can be greatly

[2]Williams, R. D. Self- and cross-sterility in white clover. Welsh Plant Breeding Sta. Aberystwyth [Bull.] 12, ser. H: 209-216. 1931.



A portion of the queen-mating apiary of J. W. Newton, Louisiana Bee Farms, Baton Rouge. White clover in the foreground.

increased, for there are thousands of additional acres available for cutting if the farmers think they can make a fair profit from the seed. When prices are favorable the grower may cut most of his acreage, but if prices are low or the yields small, the acreage cut will be reduced. It is a fairly common practice for farmers to rent the seed-cutting and harvesting privilege to another individual or company. The clover hay, after the seed is threshed, is frequently baled and sold, or fed to cattle on the farm during the winter. Besides the seed and hay, pasture is provided for from 8 to 10 months in a year. A number of farmers are becoming interested in having colonies of bees brought to their clover fields to increase the set of seed. This applies not only to seed producers, but also to dairymen who wish to get more seed set in their white clover pastures.

Baton Rouge, La.

TABLE 2.—Estimated quantity of white clover seed produced in certain parishes in Louisiana, and selling price.

| | Area cultivated. | | Seed produced. | | | Aver. selling price | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1932 | 1933 | 1931 | 1932 | 1933 | 1931 | 1932 | 1933 | |
| Parish. | Acres. | Acres. | Pounds. | Pounds. | Pounds. | Cts. | Cts. | Cts. | Authority† |
| Avoyelles* ..... | 5,000 | 6,000 | 360,000 | 150,000 | 180,000 | 19 | 18 | 10 | F. A. Swann |
| Assumption ..... | 360 | 525 | ... | 11,000 | 16,000 | .. | 17 | 12 | B. Thibaut |
| East Baton Rouge | 3,600 | 4,800 | 75,000 | 150,000 | 240,000 | .. | 16 | 18 | G. C. Smith |
| St. James ..... | 400 | 100 | 30,000 | 10,000 | 6,000 | 18 | 18 | .. | R. C. Calloway |
| St. Mary ..... | 500 | 600 | 75,000 | 21,000 | 25,000 | 21 | 19 | 15 | P. DeGravelles |
| Terrebonne ..... | 1,500 | 200 | 120,000 | 150,000 | 5,000 | 25 | 20 | 15-20 | J. G. Richard |
| West Baton Rouge | 700 | 1,000 | 10,000 | 46,000 | 50,000 | 20 | 18 | 18 | A. E. Camus |
| Total ..... | 12,060 | 13,225 | 670,000 | 538,000 | 522,000 | | | | |

†The men listed are the agents for their respective parishes.

*Estimates from an Avoyelles Parish seed dealer are: 450,000 pounds in 1931; 300,000 pounds in 1932.

# Selecting an Apiary Site

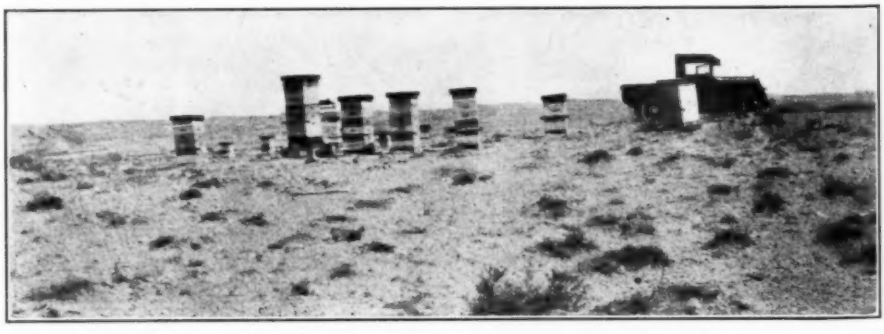
**J. E. Eckert**

Assistant Professor of Apiculture, College of Agriculture, Davis, California.

## Experiments to Prove Different Factors in Different Localities Are to be Considered

(Continued from July.)

During the second and third observation periods in 1929, certain colonies from the more outlying stations were moved nearer the source of nectar. Moving was done at night after the bees had stopped flying, all bees were confined in the hives, and each entrance was disguised in the new locations. Despite these precautions, many bees returned to their former stations even though they had been moved four miles. In each case, evidently the field bees worked in the same territory as before, being moved and then returned over the old routes to their former stations. In each instance the bees were collected and transferred to their new locations. Some that came back may have stayed out overnight; but since none returned to the two more distant stations



**Station 2, looking east over the badlands, after concentration of colonies.**

whence they had been transferred to the nectar-producing area, bees were generally not caught out on the nights they were moved. The bees that returned were laden with nectar or pollen from the sweet clover.

### Caucasians vs. Italians

Records for the three years showed that the best Caucasian colony gained on an average 1.1 pounds more than the best Italian colony. This slight difference hardly indicates any fundamental racial superiority under the experimental conditions. The pollens carried showed that one race flew as far as the other in securing pollen and nectar.

### The Distribution of Bees Within a Nectar-Producing Region

Beekeepers seem quite generally to believe that bees will orient themselves in all directions from an apiary located within a nectar-producing region. Since the colonies in the irrigated region adjoining the badlands did not store so much as did similar colonies located at certain distances from the same source of nectar, evidently factors other than distance were operating to the disadvantage of the former colonies. To explain this situation, it was decided to observe how bees actually distribute themselves over a given territory when abundant forage is offered them on all sides.

A desirable location was found in the San Luis Valley of Colorado, where 25 square miles containing between 2500 and 3000 acres of sweet clover was not occupied by commercial apiaries. (The same location was taken the following year, and there may be several more yards there by now.) Some Italian colonies were found in this area; and Italian bees, but no Caucasians, were seen among the sweet clover. The territory appeared most favorable for the production of honey.

An apiary of 58 Caucasian colonies was moved into the center of this territory, and the Caucasian bees found at known distances from the apiary were counted in order to ascertain how the bees distributed themselves over the territory. Observations were made at quarter-mile intervals from the apiary until Caucasians were no longer found, and were taken by three observers in each of three different directions at the same time on successive days.

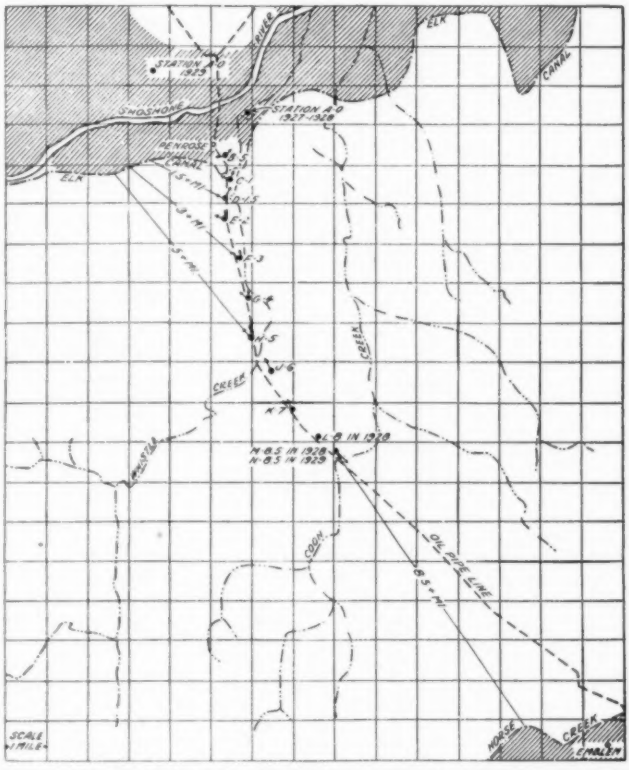



FIGURE 3.—A diagram of the district east of Powell, Wyo., in which the honeybee-flight experiments were conducted in 1927, 1928, and 1929. The shaded areas represent the irrigated areas in which fields of alfalfa and sweetclover were located. The badlands lie between them. Colonies were located at the stations numbered and the directions of flight are indicated by arrows.

### Results

The results, recorded as the average number of bees found during each observation at the different distances, revealed (1) that the bees flew predominantly in one general direction from the apiary instead of orienting themselves in all directions; (2) that the greatest concentration was within a half-mile of the apiary; (3)

that the degree of concentration did not always diminish as distance increased, and (4) that some bees flew as far as 2.75 miles from the apiary when they could have secured abundant nectar and pollen much nearer in the same general direction (Fig. 3). The general direction of flight was to the northwest; that of the prevailing wind, from the southwest.

### Orientation of Bees Within the Nectar-Producing Area

Observation soon showed that the bees worked more numerously in some fields than in others apparently as attractive. In an attempt to explain this behavior, several hundred bees were caught, marked and released in different sections of the territory. Subsequent observations showed that these bees returned on successive days to the vicinity in which they had been marked, and in many instances were again found within a few feet of the place at which they were first marked, even though they had to pass over several hundred acres of the same kind of bloom in order to get there. These observations were repeated near Laramie, Wyoming, where the nectar-producing territory is very limited, with somewhat similar results, both as to distribution and also as to the manner in which the bees oriented themselves in relation to any particular field.

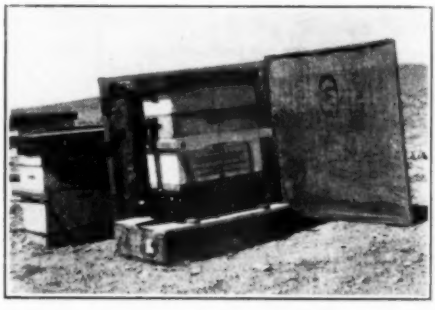
### The Manner in Which Bees Orient Themselves from a Given Apiary

In another portion of the San Luis Valley, the position of 13 apiaries was carefully marked in relation to each other, and the direction of flight from each was observed. Bees from nine of these apiaries proved to have only one major lane of flight, over a rather narrow angle. Of the remaining four, the bees from only two were flying in two major lanes that were in different directions. Bees from two of the 13 apiaries were apparently trespassing within a radius of 1.5 miles in the territory of others, even though some of the apiaries were quite close together. As all were affected by the same prevailing winds, the wind appeared to play no very important part in determining the direction of flight from any one apiary (Fig. 4).

### Certain Factors May Change the Direction of Flight

Practically every beekeeper who has watched the flight from hives in an orchard knows that at certain hours few bees, if any, are found on the fruit blossoms even though the bees flying are quite numerous. The explanation seems to be that different plants yield nectar at different periods of the day, some yielding more plentifully or in greater concentration at certain times than at others. Perhaps bees worked the fruit blossoms first and then were attracted to another more plentiful source of nectar later in the day.

In 1929 we investigated a rather remarkable change in the direction of flight from an apiary near Worland, Wyoming. Bees in a fine irrigated alfalfa region were known to leave this valley at different times and head out over a stretch of badlands. In the company of Mr. E. O. Rauchfuss, his father, and his brother, Herman, I ascertained that the distance between this apiary and the small valley to which the bees were flying was 4.6 miles. At times the bees would fly in a slightly different direction from the one surveyed, so that the distance they had to cover was much greater.



**Showing method of protecting scales from wind while weights were taken in flight experiment, 1929.**

In another instance in Wyoming, an apiary stood 1.5 miles from an irrigation ditch that marked the beginning of a nectar-producing region. Near the beginning of the honey flow a swarm of grasshoppers suddenly destroyed all nectar-producing plants for 1.5 miles between this apiary and another irrigation ditch, thus forcing the bees to fly three miles to the nearest nectar-producing plants. Even then, these colonies averaged some 217 pounds apiece in comparison to an average of about 265 pounds for colonies located 1.5 miles within the same nectar source. Almost any beekeeper who could not locate closer than three miles to a nectar source would be satisfied with this yield.

In the citrus regions of southern California, bees are sometimes observed leaving the orange groves that literally drip nectar over their hives, and flying to fields of sage some miles away. When bees do work on the orange trees, they do not swarm over the nearest branches but fly for some distance to other trees and quite generally go in only one major direction. At times one can not find more than a few bees per orange tree on those located right beside an apiary.

**The Selection of an Apiary Site**

In selecting an apiary site, then, one should consider not only the kind and abundance of nectar plants, accessibility, protection from prevailing winds, water supply, and other factors of less importance, but also the distance bees will fly in quest of nectar, the effect of distance on their production, and the manner in which they distribute themselves over a given territory. Often one may obtain better locations a mile or so from a given region than within the area itself, especially if the nectar-producing area is highly cultivated. If this distance does not reduce production in average years, this fact can be used to advantage both in rough country and in a highly cultivated area where suitable sites are hard to find.

The facts presented herein may not apply to all situations, but apparently beekeepers might profitably make similar observations for themselves in other sections where different environmental conditions prevail.

Davis, California.

# An Ingenious Queen Rearing Method

**G. P. Beyleveld**

## The Skillful Manipulation of Hive Used Saves Time and Labor

I have devised a method by means of which one colony can be made to accomplish the combined work of a cell-starting and cell-finishing colony. A specially prepared hive, made from two ordinary ten-frame brood-chambers, is used for this cell-starting and cell-finishing colony.

Two corresponding apertures, 7¾" by 7½" and 4" by 7½", are made in the end of each hive so that strips 1⅜" wide are left at the top and strips ½" wide between the inside of the hives and the smaller aperatures. A ½" strip is left intact between the bigger and smaller apertures of each hive. A piece of queen-excluder zinc or preferably wire, is tacked over the inside of the apertures of hive No. 1. Over the big aperture of hive No. 2 is fixed a sliding cover as shown in illustration. Two metal rabbets can be used to form the grooves between which the cover, which is made of galvanized iron, can slide. The wood will first have to be chiseled out to a depth of about ⅛", so that the metal rabbets come flush with the side of the hive. The corners of this aperture are lined with strips of galvanized iron or tin so as to minimize propolization.

A ¾" division-board is fixed to hive No. 2, 4½" from the inside, thus forming a three-frame compartment. On the opposite side is a built-in feeder on the Doolittle principle. It is constructed as follows: A tight fitting division-board, ⅜" thick, is nailed 1⅝" from the inside of the hive and parallel to it. The bottom is covered over with a piece of wood so that it comes flush with the bottom edges of the hive. This trough is thoroughly painted and made water tight with paraffin wax. One-half of the top is then covered over with a piece of wood. Another piece with a V notch at the bottom is put inside the trough so that the top joins up with the other piece and the lower portion extends down to the bottom of the trough, about an inch from the corner. This forms a slanting board which facilitates the exit of heavily gorged bees. The idea in covering up half of the top is to prevent undue evaporation and also to diminish the exposed surface of syrup in order to insure a slower intake of feed by the bees. The whole inside of the open part of the trough is lined with wire cloth, which provides a good footing for the bees and thus minimizes the danger of bees getting drowned in the syrup.

A ⅞" hole is then drilled through the side of the hive into the trough, about two inches from the top in front and an-

XUM

other one in the opposite lower corner flush with the bottom of the feeder. Next two oil drum faucets are procured and screwed into the holes. The lower one is sawn off about 1 inch from the threaded part. A rubber stopper with a hole through the center, containing a ¼" glass tube, 8" long, bent in the form of an L, with the top bent over and downwards, is inserted into the remaining part of the faucet. The top of the tube should be nearly closed up, leaving only a tiny hole for the air to escape. The average beekeeper may find the making of this part of the feeder practically out of his scope, but any chemist will be able to make it for him for a few cents. The other faucet should be made to screw loosely into the top hole. A small aluminum funnel is made to fit snugly into the exit of the faucet. The feed is then poured into the trough from the outside, via the funnel and faucet. To prevent rain or dust accumulating in the funnel, the faucet is turned around so as to invert the funnel.

The advantages of this type of feeder are:

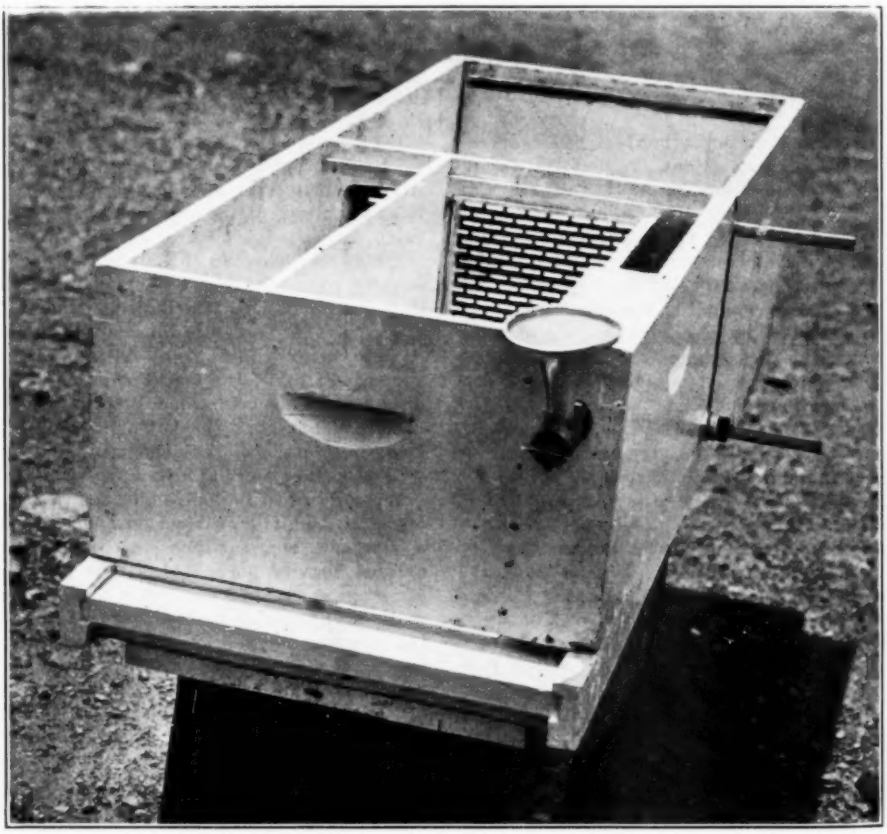
(1) The level of the feed in the feeder can be read from the outside by means of the glass gauge.

(2) The feed can be poured in from the outside without the use of smoke or disturbing the colony in the least.

(3) No danger of washing down bees as in the ordinary Doolittle feeder, since the syrup gradually rises up in the exposed part of the trough.

(4) The faucet closes up airtight, thus there is no danger of anything finding its way into the feeder from the outside.

Two pieces of canvas are used for inner covers. The one piece is nailed on the division-board of hive No. 2, so that each compartment can be examined without disturbing the other. The other piece is nailed to the top edge of one of the long



Hive No. 2 in foreground, hive No. 1 at rear.

sides of hive No. 1. Thus, one hive can also be examined without disturbing the other. Another advantage of using canvas is that there is no jarring as is usually the case when prying off a wooden inner cover. This is a very important point as far as cell-building colonies are concerned—the less jarring the more and better the queens.

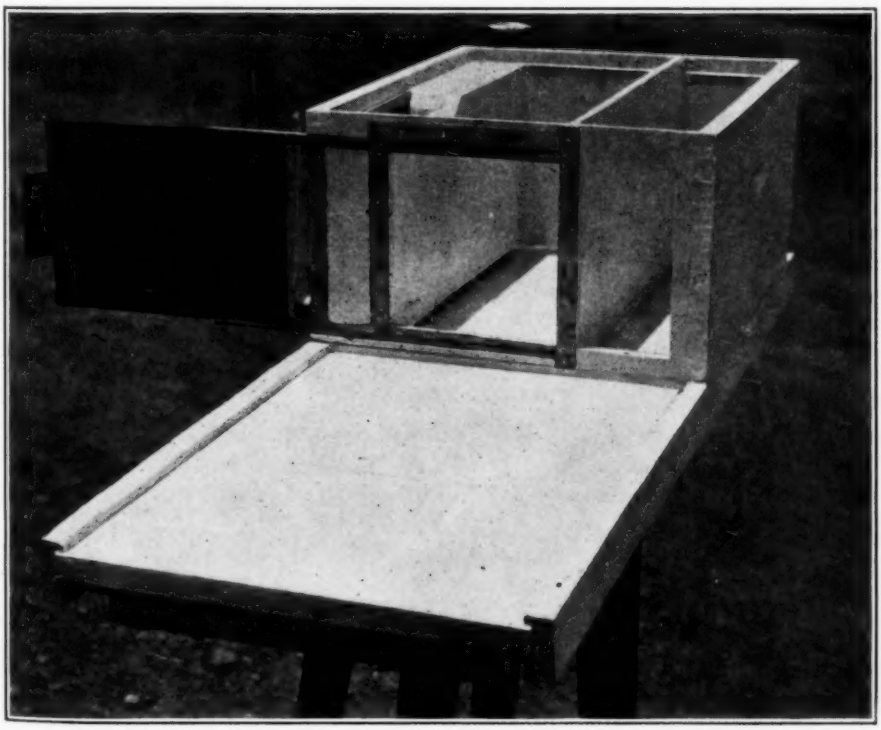
The outer cover consists of two inner covers around which a rim made of 1"x½" strips of wood has been nailed. A rabbet, ¼" wide will have to be made along the inside of one of the long strips so as to allow the cover to telescope over the hives. The top is covered with a piece of galvanized iron, the same as an ordinary outer cover.

The bottom boards on which the hives are placed, are fixed end to end on a strong level board 36"x16"x1", so that the shallow sides face upwards. Underneath this board and in the center a spindle 2" long and about 1" in diameter is fixed.

A level platform, 36"x12", standing about 18" from the ground is next erected. In the center of this platform a 1" hole is drilled and a ball-bearing race, into which the previously mentioned spindle fits, fixed over it. This enables the hives to be revolved. There are devious ways of making the hives revolvable and the beekeeper can use his own initiative in this respect. The main thing to watch out for is that the revolving process be done easily and smoothly.

This completes the hive, which can in reality be prepared far easier than it may appear on paper.

After the hives have been set up, a strong two-story colony is transferred into them. The queen with one well-filled comb of honey and pollen and two empty combs, is placed in the three-frame compartment of hive No. 2. Three frames of sealed brood and one with honey and pollen are placed in the bigger compartment, leaving a space in the center vacant to receive the frame of cells. The other frames of brood and honey are placed in hive No. 1, taking care that there are only two frames of unsealed brood present. If there are any extra frames of unsealed brood, then they should be exchanged for frames of sealed brood from



Hive No. 2. Hive No. 1 removed from bottom-board.

some other colony. The entrance of hive No. 2 is closed up altogether with an entrance block and the bees allowed to work through the entrance of hive No. 1. The sliding cover should, of course, be pulled out partially, so that it uncovers the aperture. Thus the colony is housed in what is virtually a modified long-idea hive.

### Method of Operation

In a day or two when the colony has settled down, it can be used to rear its first batch of cells. The procedure is as follows: In the middle of the day when the bees are flying actively, the hives are revolved so that the entrance of hive No. 2 takes the place of that of hive No. 1. The entrance block from No. 2 is taken away altogether and put in front of No. 1, giving it the smallest opening. The sliding cover is then pushed in slowly. Hive No. 2 is thus made a separate queenless colony. The field bees of the whole colony are now added to this queenless portion, which insures that congested condition which is so essential for a cell-starting colony.

In the late afternoon a frame of grafted cells (not more than 30 if they are all to be left in the colony to be finished as well) is given to the cell-starting portion of the colony. The colony is then left undisturbed for 24 hours, after which it is revolved again to its original position, the sliding cover pulled out and the entrance block from No. 1 removed and used to close up that of No. 2. (The few bees that have become used to the small entrance, will soon find their way to the main entrance.)

The two frames of sealed brood next to the frame of cells, are then exchanged for the two with unsealed brood in hive No. 1, in order to draw the nurse bees to the frame of cells. Hive No. 1 is now devoid of any unsealed brood and should contain not less than six frames filled with sealed brood.

We have here now the same arrangement as in an ordinary cell-building colony, namely, the queen separated from the brood by a queen-excluder and the bees continuing to build cells under the supersedure impulse.

If one grafts at ten-day intervals, the cells are simply left in this colony till noon of the tenth day, when they are taken out and distributed to nuclei. The colony is then revolved, the slide pushed in and it will be ready for another batch of cells in the afternoon. After 24 hours the hive is again revolved to its original position, the slide pulled out, etc., and two frames of unsealed brood put next to the

Hives in operation.

frame of cells. These frames of unsealed brood should be removed from the three-frame compartment, containing the queen. Care should, of course, be exercised not to take the queen with the brood and two empty combs should again be given to her to provide her with egg-laying room for the ensuing ten days.

Thus the colony can be used over and over for starting and completing batches of cells.

### Strong Colonies Necessary With This Method

A point that scarcely needs emphasis is to see that this colony is kept overflowing with bees all the time, if good results are to be expected. Frames of emerging brood from other colonies should always be added to it to keep this colony up to strength.

The advantages of this system are manifold.

(1) It eliminates the use of a separate cell-starting colony with its attendant fuss, namely, making it queenless and broodless, congesting the bees, transferring the cells after 24 hours, and returning queen and brood.

(2) It saves the extra amount of feed that has got to be fed to the cell-starting colony and incidentally leaves the colony available for all honey-production purposes.

(3) There is no heavy lifting of a second brood chamber, thus women queen-breeders will find this system very much to their liking.

(4) No need to transfer the frame of cells from one colony to another with the attendant danger of chilling the larvae or jarring them out of place.

(5) The colony can also be used for cell-starting purposes only, and will be found to save a lot of labor, besides giving excellent results.

Pretoria, South Africa.

[This is certainly an ingenious arrangement with which the J. Smith method of growing queen-cells can be accomplished without causing any disturbance in the apiary. The maximum production of sealed cells from this hive would be an average of three a day. The commercial queen-breeder who uses 100 cells or more a day would require a large investment in this special equipment. The back-lot beekeeper with only a few colonies could hardly afford to make and operate it to meet his requirements. But the honey producer who wishes to requeen quite a number of colonies could grow a lot of cells during the season, with very little expenditure of time and labor. One paragraph in the instructions is not quite clear to me. After the first batch of cells is completed, another batch of grafted cells is given, and 24 hours later two frames of unsealed brood are taken from the queen compartment, and hung next to them. These frames have been in the queen compartment eleven days. I would surely expect to find a large per cent of the brood sealed.—Mell Pritchard, Queen Breeder for The A. I. Root Company, Medina, Ohio.]

# Roadside Selling

**E. R. Root**

## *Selling Honey at Gasoline Stations. The Possibilities of Opening Up Markets Through the Gas Men*

In my numerous trips over the country I have run across gas stations where honey is sold with other commodities—particularly in the grocery line. In those parts of the country which are sparsely settled, as in the South, the gas station is often the only distributing point for groceries for miles around. It is at these stations where honey is often found. If the beekeeper will hunt these up he will find a chance to sell his product.

In the state of Maine, on one of my lecture tours for the Redpath Chautauqua in 1927, I was surprised to find so many gas stations selling honey. Indeed gasoline and honey were the only commodities sold. It was all one brand of honey beautifully displayed through the sunlight. I determined that after the lecture season was closed, I would look up the beemen who had the enterprise to sell honey at these stations for hundreds of

miles around; and I did. They were Mr. and Mrs. A. W. Black, Winthrop, Maine. I mention the two because it was Mrs. Black who put up the honey in glass so attractively. She or he, I don't know which, persuaded the gas men—dozens of them—to display the honey on shelves so that the sunlight would shimmer through it as much as possible. As it is not easy to get a gas man to include honey with his other products, they offered to put the honey on sale and then on a subsequent trip collect pay for the amount sold. After they demonstrated that their honey would sell they collected pay on the whole of the first lot and the second lot and then the gas man would pay for the honey when he received it. In this way they sold the entire production.

Most beekeepers are compelled to own an automobile. Too many of them neglect the opportunity to move their honey in this way. Try the gas man and note his reaction. Take along your good-looking wife to clinch the sale.

When I see honey on display at gas stations, I occasionally find that the gas man is also a beekeeper, and produces his honey at or near the gas station and then sells it to his patrons as his honey. The bee hives are right in sight and here is the honey.

### A Real Irish Beekeeper

A few miles from Tampa, Fla., on route No. 17 west, we find a gas station, the proprietor of which is also a beekeeper. I refer to J. J. Hagin, of Hagin & Formbys, as shown in Fig. 1. In Fig. 2 we have a general view of Hagin's gas station and in the background their beeyard located in the palmettoes. In Fig. 3 we have their pretty little apiary, the hives of which are elevated on wooden platforms to get away from insects and the annual fires. In the station itself we find their honey with a moderate line of groceries, and on the walls of the room skins of rattlesnakes that Mr. Hagin has killed. He calls himself a full-blooded Irishman and the picture of him in Fig. 1 shows a face of determination, force, and character. To be an Irishman from the old country is no mean distinction, and Mr. Hagin is proud of his ancestry, and well he may be.

I suppose Mrs. Root and I had driven by his place dozens of times until just before we came away, we saw all of a sudden a very pretty row of hives that had just been set there to catch the palmetto flow of honey. Later they would be moved to orange.

Well, the genial Mr. Hagin stands there ready as seen in Fig. 1, to catch swarms or fill your car up with gas and then he adroitly refers to some "very nice honey" that he has in the store. Their bees produced it and he will guarantee its

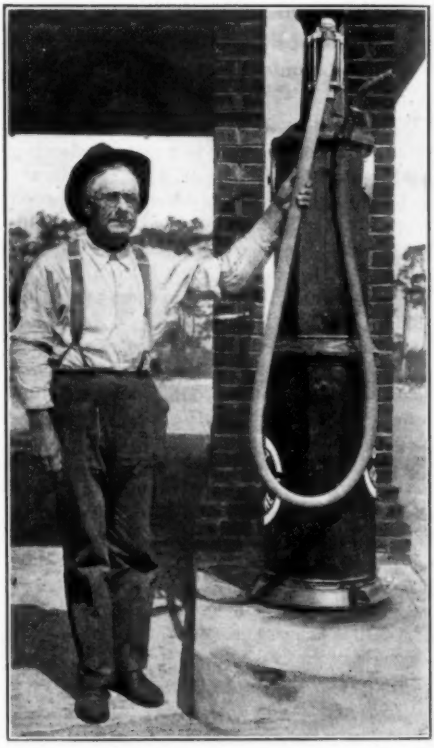


**Fig. 1.—J. J. Hagin, a gas station agent and a beekeeper. He produces the honey and sells it direct to the motorist.**

goodness. More than likely you go away with some good Florida honey and when you go again on route No. 17 you will stop. This time you will ask about the bees and then Mr. Hagin begins to fill you up with gas, or more exactly a story about bees.

When Mrs. Root and I called at his place the first time, we did not make ourselves known to him. We wished to see his reaction to our questions and this I have just given you.

When he found my name was Root, he said, "Yes, I know you," and then brought out an old edition of A B C and X Y Z of Bee Culture which he had evidently studied.

Fig. 2.—Hagin's gas station where honey is sold. The bee yard furnishing the honey is shown in the distant background. This station is ideally located at a fork in the roads.

Mr. Hagin lives upstairs. Back of the station is a nice little garden, and in the background as pretty a row of hives as you have ever seen. He is producer, consumer and salesman. Can you imagine anything nicer for a man and wife past middle life? They have a little kingdom right out in the country not far from the big Tampa Bay. Wife said to me as we came away, "What a chance for other people out of work to get a living in God's great outdoors." Drop a hint, Mr. Beekeeper, to the man who has lost his job but has a little money.

### A New Old Outlet for Honey

Right here I wish to draw attention of the fraternity of beekeepers to the possibilities of selling honey at gas stations. Tell the gas man you will put near him a few bee hives with live bees in them if he will put in a line of your honey. Explain, as does Mr. Black of Maine, that he does not need to pay now but that you will collect on your second trip. If you know how to talk honey, you will get a customer. When you get him all fixed up, go ten or fifteen miles further and start a new station and so on till you have covered the country with your honey.

Mr. Black of Maine, is doing this very thing. What he is doing you can do.

Medina, Ohio.

Fig. 3.—Hagin and Formby's apiary on Route No. 17, out of Tampa, Florida. These bees supply the gas station with honey.

# From the Field of Experience

## HONEY IN COOKING SCHOOLS

### An Excellent Way to Develop Home Market is by Demonstrations

In talking with women, I have found that they are willing to use honey in recipes, but need to be shown how. In this respect these cooking school demonstrators can be of much value to the honey producers. How the women scribble down the recipes given out! In many instances, women seem to accept the idea of using honey when recommended by a cooking expert rather than by recommendation of merchant or beekeeper. It's just a quirk of human nature, I presume. The expert is set apart and has nothing to sell!

After the first session of an unusually good cooking demonstration, I stopped for a talk with the demonstrator in charge. No honey was featured in her recipes nor did she make any reference to honey as so many experts have done at other cooking school sessions it has been my privilege to attend.

I asked her if she had ever used honey in her cooking or in demonstration classes. She had not. Then she told me she received the literature regularly, each year from the American Honey Institute. She stated she would like to use honey and would if it were not so difficult to secure. In so many of the towns she could not purchase honey! What an indictment for the beekeepers to answer! And it is true in many, many localities.

At the next session's close I had some of my favorite honey recipes typed and ready for the demonstrator. We went over these together and I gave her a "pep" talk on honey, bringing out good, strong points. She caught my enthusiasm and voluntarily offered to give the recipes in her other schools and to secure a supply of honey to take with her so she could carry out definite plans.

I'm hoping her good intentions will not be dampened by lugging heavy cans of honey around. She and many other demonstrators are sponsored by large utility companies operating over territories that include a lot of beekeepers. If all of these beekeepers will co-operate they can reach thousands of women. It is another excellent way of developing the home market which certainly needs to be done.

Make use of these demonstrators, beekeepers, by supplying your territory to the limit with honey, and send in your support to the Institute to keep this good work going. Making the public honey-minded requires continued effort. We should overlook no opportunity. It seems slow work now but it will pay good dividends in the future. Make it impossible for cooks to say honey is hard to secure.

American Honey Institute through Mrs. Malitta F. Jensen, has done a very remarkable piece of work. It certainly merits better co-operation on the part of more beekeepers.

Few beekeepers can realize the tremendous results Mrs. Jensen is securing through her tireless efforts unless they scan many women's magazines, as I do, or come into contact with women who are sponsoring honey through radio, cooking schools, etc. Dozens of articles are appearing in magazines and new honey foods are continually being developed, not only by the Institute, but by home economics women all over the country who have become interested in honey through the efforts of the Institute, and who are endeavoring to combine honey with their special products.—Mrs. Benj. Nielsen, Aurora, Nebraska.

## A NOVEL PORCH APIARY

### No Grass or Weeds to Mow in Such a Location

By utilizing the second floor of my paint shop, I have constructed a new type of bee porch. The porch is 36 feet in length, and 10 feet from the ground. I called on the largest owner of bees in this county the other day and gave him some photos of my porch. I enlarged on the advantages of this bee location, saying it was not natural for bees to be on or near the ground and that bees if left to their choice never establish their domicile on the ground. He said, "I think that your bees will have difficulty in landing when they are loaded." Well, it is so long since any of our bees have been loaded that I really had not thought of that.

The porch is 6 feet deep, and a little more than 6 feet high, and is tightly sealed back and overhead with matched lum-

ber. There also is an extra floor laid with a pitch of 4 inches toward the front. It is well painted so that any rain that blows in from the south will quickly run off to the front. This sloping floor provides about the right tip for the hives. As soon as the sun appears over the hills in the morning it is full on the hives, and by noon the hives are all in the shade for the rest of the day. The 36-foot catwalk back of the row of hives provides a nice smoking promenade on Sunday mornings. It is partly in the shadow and the bees hardly know I am there. From this bee porch we have an unobstructed view out over the hills for miles to the south and the east—just the direction that our runaway swarms take when they hit it for the tall timber. There are lots of bee trees over in the hills.

The porch is completely protected from the north and west winds; and even when the wind blows from the south in toward the front there is no draught, because the back and overhead are sealed with matched lumber. For wintering we will wrap the hives with black felt paper, and move them back close to the rear of the porch. If snow blows in it can easily be swept off because we will give the floor an extra coat of glossy floor paint in the fall.

The water tub rests on a bracket attached to the shop. Since the water tub is lettered it might be inferred that my bees can read English; however, the liberal amount of lettering in evidence is explained by stating that I am a sign painter and do not wish to get out of practice.—Miles E. Miller, Kinderhook, New York.

[It would doubtless be an advantage to put alighting boards on each of your hives, extending them from the hive entrances to the edge of the floor. This would help the loaded bees to get into the hives easily.—Editor.]

## BEE SHIPPERS ARE JUST HUMAN

### The Package Bee and Queen Game Isn't All Sunshine

The season of 1934 was profitable, but I hope we never have quite such a wild scramble again. Now there are several complaints about late arrivals and the accusation is that no shipper should accept more orders than he is sure of being able to fill. This applies to all shippers, I believe, and to queen breeders as well and the answer I gave to one man was this: Suppose you were raising berries which had to be shipped as they ripened and could not be stored as honey can. Then suppose you had a rush of orders which would take the largest crop you might expect with the most favorable weather. Would you refuse a third or more of these orders for fear dry weather might reduce your berry crop, knowing that if good weather came this action would leave you

"No grass or weeds to mow in such a location."

with that third of your crop on your hands to spoil? Bee shippers are just human, and have been passing through some mighty tough times.

I have also had complaints from buyers whose orders I refused because I could not make early shipment, saying that they wanted them anyway, even though late. Well, a shipper is not a mind-reader. How is he to decide? But it is mostly over now and I have also had a lot of nice letters from satisfied customers who sensed the situation and made allowances.

The worst cause of delays aside from shortage of queens at critical times was the fact that when the truck spent the day visiting three yards several miles from home, the poundage of bees brought in was half or two-thirds of what it would have been if the spring had been normally favorable for brood rearing. That meant that the balance of that day's shipment had to be crowded into another short day which was already booked up for a normal day's catch. This continued through late April and all through May because of no honey flow at the time when one might expect the flow to start every day. At the end of May I left some yards stripped of bees and with an average of not more than one pound of honey per colony, and, being entirely unexpected, there was no provision nor time for feeding. The weather just kept cool, and then cold and then cool, but seldom warm and never real hot, until the natives were all complaining.—Morley Pettit, Georgetown, Canada.

## OBSERVATION HIVE FOR PUBLICITY

### How the People in One City Became Interested in Bees and Honey

After the state inspector had visited us in June, 1933, so many questions were asked by the one-and-two-colony beekeepers that I conceived the idea of an observation hive for the office of the County Agricultural Agent. I talked it over with our association secretary, Mr. Walter Bielfield, who thought that it would be quite a publicity stunt. He built a four-frame brood-chamber having all four sides of glass and a glass cover. This hive was mounted on an iron pedestal and stood up even with the window sill. He made a screen for the window and constructed an entrance of sheet metal through the screen frame. He also had a small block under the sash so the window could be opened and closed for ventilation. All the bees that were placed in this observation hive were the few workers that clung to four brood frames when taken from the parent colony.

Mr. Bielfield had some mighty fine looking yellow Italians. He thought that it would be well to develop a queen in the county agent's office, as many questions were about queens. The hive was installed around the first of July. The dry weather hit us about then and it was necessary to feed. This was done by means of a Boardman feeder. There was not much said about the installation, but the newspapers carried an article on the feeding.

Several queen cells were built and the frames were arranged so that most of them were on outside frames. This was the start of the publicity. Several short articles appeared in the papers on the queen cells, but when the queen emerged, the interest rose to its peak. Several news items about the queen were printed. She mismated, however, and in a short time the bees changed to a dark hybrid.

One morning Bill Cronin, editor of the Terre Haute Tribune, called me on the phone and asked if I could be at the court house at 1:30 that afternoon. He had a photographer there and lined up the county agent, Mr. O. C. Redenbacker, and myself. The photographer made two shots. I guess both were fatal because about two weeks later the picture appeared on the front page of the Terre Haute Sunday Tribune-Star, in the rotogravure sheet at that.

We had our field meet on July 28, and while Mr. James E. Starkey, Chief Inspector of Apiaries, was here, I took him up to see it. The following month a paragraph in the State Bulletin read as follows:

SEEN SOMEWHERE IN INDIANA

A glass observation hive full of very fine yellow bees in the office of the County Agricultural Agent on the fourth floor of the court house at Terre Haute. The bees were contentedly working away, going and coming through a tunnel arranged under the window. I am told that the interest in this sight has been so great that for weeks people there have climbed the stairs at the average rate of four persons per hour each day since its installation.

This was the kind of publicity we wanted. We wanted everyone to know that Vigo County had a few beekeepers, and an association.

One day one of the kiddies of the neighborhood came over to watch me put

some foundation in some super frames. She asked a good many questions, so I invited her to get all the kiddies of the neighborhood together and visit the "glass hive," as the newspaper called it.

A few days later she told me that they were coming that afternoon. I made some honey candy and gave them all a generous helping. The Saturday Spectator carried an article about the visit and published the candy recipe. Other papers also carried an article about the visit.

When the weather got too cold to permit flights, we took the colony out and united it with another at the Bielfield apiary. There had been two supers on the hive since its installation. These supers each consisted of four extracting frames. Ten-and-one-half pounds of extracted honey and about five pounds of chunk honey was taken out and distributed among court house employees and newspaper men. This brought more publicity.

I wish to say to all association presidents who really wish to do their association a favor as well as promote the sale of honey, that they should think the matter over and read Mr. Penn G. Snyder's article on "Observation Hives for Public Museums," in the October, 1933, issue of Gleanings in Bee Culture.—Wm. A. Pogue, Terre Haute, Indiana.

## ONE WAY TO SELL HONEY

### Selling Honey in Extracting Combs Eliminates Labor of Extracting

The past season I operated five colonies, building up from two-pound packages received from the South.

My sales plan was to remove the complete frame from the extracting super, wrap first in oil paper, then in a good grade of colored wrapping paper and tie with a green string into a neat package. I made no attempt to clean off the propolis but gave the roadside stand customer a product as nearly direct from nature as it was possible to do. I was told by several of my customers that on arrival home, it took the entire family, dad included, to get the honey out of the frame into a bowl or container. One customer stated a neighbor was called in to witness the removal of the honey from the frame. Of course, there was the sticky frame for disposal and this the boys would scramble for, the final result of it all being that the family really knew that "honey was in the house."

Much of the fine flavor and aroma of the product is saved by this minimum of handling and there is not so much likelihood of the children overeating honey in the comb, and the plan removes it from the "food-from-cans" practice of the present day. Low-priced frames were used in the extracting supers and this is a container about as cheap as any available.

A price of 20 cents per pound was easily secured and a number of orders have been entered already for similar packages for the coming season, these being received without solicitation.

Another factor in the sale of honey in this way is that the average extracting frame contains about four and one-half pounds, and no more sales effort is required to sell this size than the one-pound section. One customer volunteered an order for one frame of honey per month during the coming season, which leads one to the thought that the small producer could build up a trade of a sale a month to a number of customers during the honey season. My apiary is being expanded to 32 colonies for the coming season to produce on the above basis and sales plan.—H. L. Rushing, Nashville, Tennessee.

[The above plan does very well for selling to local trade where honey does not need to be transported any great distance. It might not work so well for selling to tourists as the combs might get broken in transit before reaching destination.—Editor.]

## PIPING QUEENS

### Peculiar Sound, Once Heard, Will be Instantly Recognized and Never Forgotten

I purchased my first swarm of bees nearly thirty years ago. In my early enthusiasm I spent many moments on hands and knees; my ear pressed to the back of a hive, listening for that thrilling sound called "piping," of which I had read. An old beekeeper solemnly assured me I need never lose a swarm if I would listen a moment each evening for this tell-tale signal.

I kept bees (in a small way) for some years before ever hearing the voice of a queen to know it positively.

Last summer I saw a virgin in the act of piping, in a mating nucleus. This nu-

cleus had a laying queen. The older queen passed leisurely over the comb entirely unmoved by the sound so far as I could detect. Also, though she passed several times within an inch or two of her rival, she appeared entirely unconscious of this disturbing presence. When finally the older queen actually bumped into the virgin she seized her at once with a viselike grip which relaxed only when the fatal sting had been driven home. She then dropped the unfortunate virgin and went calmly on about her business with no more apparent concern than a man would show in laying aside a newspaper. No fear, no mercy, no remorse. This observation, and others, leads me to believe that an active laying queen is at least an even match for a newly emerged virgin. A virgin four or five days before she mates is an entirely different proposition.

Should the queen chance to utter her war cry while resting on a bit of dry comb the sound is greatly intensified, the comb acting then as a sounding board. This effect is lost where full cells of brood or honey prevent resonance. A piping queen appears to cling close to the comb in a rigid attitude as though the piping required strenuous effort.

Nowhere in my reading have I seen reference to the voice of the worker though every beekeeper must know the short cry which a worker bee emits when pinched slightly between combs or a fold of the clothing. The instant response of the other bees to this call is strongly apparent.

I have often heard a similar sound in a normal colony entirely undisturbed and having no virgins or cells. In my experience the cry of the worker is almost always a short single note. The queen commonly utters a series of notes. The pitch and quality of the sounds are so similar as to convince me that the sound mechanism, whatever it may be, is not the special property of queens but is possessed by every normal worker.—Wendell T. Card, Sylvania, Pa.

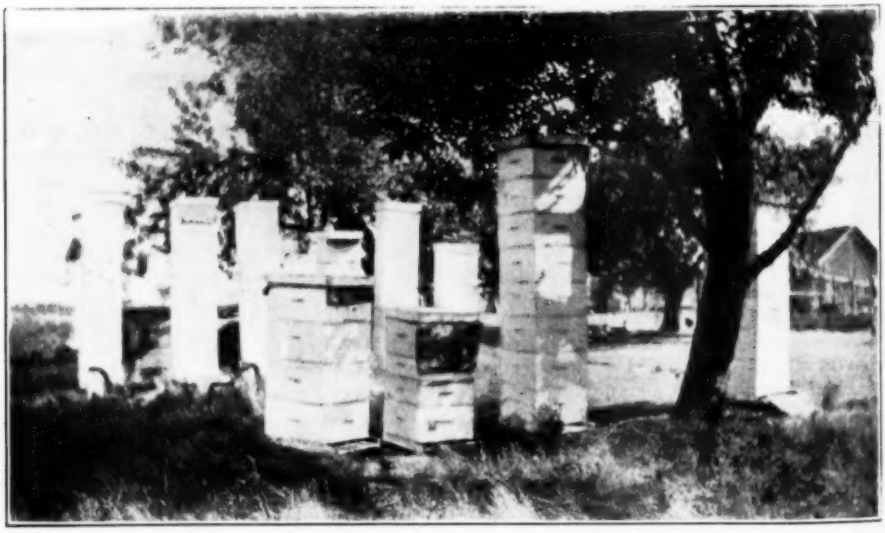
## SMALL BUT PROFITABLE APIARY

### Not the Number of Colonies But Amount of Honey That Counts

My practice is to keep what bees I can care for properly and judge success by the number of pounds of surplus honey secured instead of the number of colonies owned. If this idea were practiced more generally it would mean a great deal toward the control of disease.

I tried wintering in double brood chambers and found it O. K., especially since I live 70 miles from my bees. As there is no fall flow of dark honey in the neighborhood I leave all the honey on the hives till September, thereby getting a well-ripened honey with a fine body. I have had no trouble with the honey fermenting.

I keep my bees as a profitable sideline since conditions in the city have been so uncertain.—Charles Burns, Detroit, Mich.



"I judge success by the number of pounds of surplus honey secured."

## HOMEMADE WAX POLISH

When we built our bungalow with all modern conveniences, we finished with oak interior trim. As we preferred a soft gloss instead of a bright varnish, the problem was whether to use wax or "flat varnish." We decided to wax all the trim, including the floors. We used raw sienna and burnt umber, to slightly darken the red oak, which we mixed with the filler, rubbing it in with a rotary motion, and finishing the rubbing with the grain. This not only filled the pores but brought out the grain beautifully. We knew that with a mixture of two-thirds beeswax and one-third turpentine, heated and stirred together, we would have a more permanent and a heavier coat than any commercially prepared wax would give.

Of course, all the oak was scraped with a steel scraper and finished with fine sandpaper, rubbing lengthwise of the grain. We had the wax, of course, and the rest of the ingredients cost less than $2.00 for the upper and lower flats. That was over twenty years ago. The entire finish is a soft gloss today without renewing the waxing. The floors, of course, have been waxed as often as necessary.

### Tanzy to Keep Away Ants

The advice to search out the nests of ants and lay a piece of burlap over the nest after pouring carbon bisulphide down the hole is good. Sometimes it is not an easy matter to find the nests. We were troubled with them at the honey stands until we found a plant called tanzy, which, when crushed and rubbed over the counter where the honey was on display, would drive them away. Since then we have not been bothered with ants.

### Then They Went Up!

When we first started beekeeping we specialized in comb honey. Occasionally a strong colony refused to work in the comb honey supers. We could always by various ways get them to work above but there was too much time lost and we had no time to waste. We decided that we were losing money with fussing and bought a supply of queen-excluders and just as soon as a colony started to "sulk," we put on extracting frames and presto! up they went into the supers.—J. F. Dunn, Ridgway, Ontario.

## SPINSTER JANE SAYS—

Well, my bees' sweet-clover heaven is no more. It is cut and done for, so far as they are concerned, but they made good use of it while it stood and bloomed. All one could hear from morning until dark was their "zoom, zoom," as they passed busily overhead, like tiny aeroplanes, carrying loads of nectar and returning for more.

Our men-folk were surely lucky when they sowed that field in sweet clover. The cause? Men all about, because of the utter failure of the hay crop, are predicting $30 a ton hay, by spring, and that clover yielded wonderfully. It stood like a miniature forest, shoulder-high to our tallest boy, who is good six feet, and so dense even the chickens shunned its dark depths, fearing to get lost, perhaps.

Reading so much about the danger of bees starving between dandelion bloom and clover bloom, we fed the buckwheat honey taken from the colonies, frozen last winter. What those bees did to that honey I do not know, but whatever process it underwent, it was like fresh honey. They drew out one or two combs too long, so that there were unsightly bulges, and when trimming these down, neatly, we tasted the honey. Umm! It surely was good. I've heard of rancid butter being processed some way and made into a sweet, nicely-flavored butter, by some closely-guarded secret formula. Surely these wise little bees do even better than that, when they can change strong, old, buckwheat honey, into a delightful, mild-flavored one.

Already we are finding out the difference between the two-pound and the three-pound colonies. With the bees, perhaps more than with anything else, there is strength in numbers. Each was liberally fed, each given a full-sized extra super, and while the smaller colony is only nicely beginning to store honey, the N. R. A. colony has nearly filled its storehouse. Who will say, "What's in a name?" after that? Both have equally good queens, and both have tireless workers, being females.

I received a delightful letter from the sender and manufacturer of that tiny jar of skin food I mentioned last month, and was greatly gratified when I found it had taken a woman to put such an excellent thing across. Only a woman could have the foresight, the initiative, to do a thing like that. Men talk of finding new markets for honey, but this woman is making a market for them.

The skin food is excellent and most beneficial. I know from using it person-

ally, that it gives one a delightful sense of well-being. Perhaps it's due to the delightful fragrance of fresh honey and roses combined, but I do not think so. I believe being absolutely clean, anyone must feel at ease, at their very best, anywhere. I'm planning to advise its use after shaving for the men. It will allay all soreness or tenderness after shaving, and smells much nicer than any powder. "Vanity is the last thing that dies—even in a man."—Spinster Jane.

## Demuth Memorial Meeting, August 1, 2, 3, 4, 1934

August 1—Home of Mr. and Mrs. Floyd Markham, Ypsilanti. 10 a. m.—General discussion, visit to home apiary and honey houses. 1 p. m.—Progress report for American Honey Institute, by Mrs. M. F. Jensen, Secretary, Madison, Wisconsin, including a demonstration of honey uses. Address, Prof. H. F. Wilson, chairman finance committee, American Honey Institute, Madison, Wisconsin; address, E. R. Root, President The A. I. Root Co., Medina, Ohio; "Consumer Demand for Honey," Clare Blakeslee, Schmidt Bros. Stores, Lansing, Michigan; "We Need a Strong National Organization," Charles Reese, State Apiarist, Department of Agriculture, Columbus, Ohio; business meeting, Southeastern Michigan Beekeepers' Association, L. M. Hubbard, President; John D. McCall, Secretary-treasurer; "Foulbrood Eradication," Dr. C. E. Burnside, Bureau of Entomology, United States Department of Agriculture, Washington, D. C. 6:30 p. m.—Beekeepers' banquet, Ypsilanti. Illustrated lecture, Dr. P. A. Webber, Nashville, Tennessee. There are ample accommodations for those who wish to camp out at Mr. and Mrs. Markham's place.

August 2—Battle Creek, W. K. Kellogg Co. 10 a. m.—W. K. Kellogg Co. plant, tour of inspection of the plant where millions of packages of ready-to-eat cereals are made, and every package carries goodwill advertising for honey. 1 p. m.—Kellogg Inn. Beekeepers to be guests of the W. K. Kellogg Co. for luncheon. 1:45 p. m. —Welcome, W. K. Kellogg Co. "W. K. Kellogg Co. plans for National Honey Week," Mary I. Barber, Director Home Economics Department, W. K. Kellogg Co,; "American Honey Institute's Plans for National Honey Week," Mrs. Jensen, Secretary, American Honey Institute, Madison, Wisconsin; "The Proper Use of Advertising Material in Grocery Ctores," Clare Blakeslee, Schmidt Bros. Stores, Lansing, Michigan; "Uses for Honey in the Dairy Industry," Prof. P. S. Lucas, Dairy Department, Michigan State College; "Why We Must Have the American Honey Institute," E. R. Root, President The A. I. Root Company, Medina, Ohio; "Rural Russian Rambles," Dr. E. F. Phillips, Cornell University, Ithaca, N. Y. 4:30 p. m. Drive to home of Mr. and Mrs. Ralph Blackman, Portland, and inspect his brand new honey house. 7:30 p. m.—Beekeepers' banquet, Portland. Address, Dr. C. E. Burnside, United States Department of Agriculture, Washington, D. C.; "The Function of the American Honey Producers' League," Dr. V. G. Milum, Secretary, University of Illinois, Chicago, Ill. Those who wish may go on to Pantlind Hotel, Grand Rapids, or stay over night in Portland.

August 3—Pantlind Hotel, Grand Rapids. 10 a. m.—Tour of inspection. 1 p. m.—"The Life Work of George Demuth," Dr. E. F. Phillips, formerly in charge of Apiculture, Bureau of Entomology, United States Department of Agriculture, Washington, D. C.; "A Tribute," by E. R. Root, Editor, Gleanings in Bee Culture, Medina, Ohio. Open forum on organization: For the League, Dr. V. G. Milum; For the Institute, Prof. H. F. Wilson; For the State Associations, Colin C. Lillie; For the Districts, Jay Cowing; "Where Do We Go from here?" Harold Albaugh, Gowen, Mich. Business meeting, Fourth District Beekeepers' Association of Michigan, Jay Cowing, President; Colin C. Lillie, Secretary. 6:30 p. m. Beekeepers' banquet.

August 4—A. M., enroute to Traverse City through the fruit belt. 1:30 p. m., home apiary of Mr. and Mrs. James Hilbert, Traverse City; demonstration of cutting and wrapping cut comb honey, Jas. Hilbert and staff; business meeting, Fifth District Beekeepers' Association, James Hilbert, President; Edward Handa, Secretary; address, E. R. Root, President The A. I. Root Company, Medina, Ohio; address, Prof. H. F. Wilson, University of Wisconsin, Madison, Wisconsin; 5:30 p. m. —Outdoor supper on the Bay shore.

# From North, East, West and South

**SOUTHERN CALIFORNIA.**—This report, written July 5, is in many respects a repetition of our last month's effort. To say it is dry is, well—just read the papers. The citrus groves in most cases have enough water to carry them through the summer, but some of the alfalfa and other farm crops will not fare so well.

Beekeepers are leaving no stone unturned to let their bees take advantage of any bloom. Some have moved their apiaries more than once since the orange bloom. While the government is reported ready to furnish the beekeeper with sugar to feed his starving bees, it takes a lot of red tape to get it.

Even the Imperial Valley is to be very short of water. They can not get the Boulder Dam in operation any too soon to avert water shortage in the future. With us, we have stayed on our regular ranges and hope to pull through.

Ranges that have never before failed to give some honey after the orange bloom have failed completely this season. Buckwheat ranges have bushes as dry as powder with others alongside of them white with bloom and no sign of bees on them. Even the olive trees in our yard that had irrigation water did not bloom. These usually bloom very profusely and often give the bees several days of very active work. Some beekeepers who moved to the Imperial Valley following the orange got about two weeks of good honey flow.

The light rain we mentioned in our last report proved of little benefit except in a few favored spots where as much as an inch fell. There the buckwheat promises to give a little surplus.

Honey markets remain firm and some options have been taken at 6 cents for white honey. Light amber has been selling for 5 cents and there is a good demand. The beeswax market is firm at prices between 17 and 18 cents. One firm is making beeswax candles. Let us hope they find some other uses for beeswax.

J. E. Pleasants, that grand old man of Orange County, has passed away. He was one of the last of the forty-niners who came to California in the gold rush days. He had been a beekeeper in Orange County over fifty years, much of the time a bee inspector.—L. L. Andrews, Corona, California.

**NORTHERN CALIFORNIA.**—Our last state marketing service report gave quite a complete survey, by county, of the poor bee and honey condition in California. Some of the older beekeepers tell us that conditions covering the entire state are the worst in its history. Starvation of bees in some parts of the state is reported. Some of our biggest commercial beekeepers are being furnished sugar for feeding. When it comes to feeding sugar to 2000 to 5000 colonies, the beekeeper has some work. But beekeepers do not quit; they are moving on.

### It Is Poor Economy to Cut Down on Bee Literature.

We have many good conditions. In fact, they far outbalance the bad ones. Take, for example, the magazines of our industry. We asked a committee of competent beekeepers to pass on all the bee journals published in the United States for July and the decision was unanimous that the bee journals stood the test of depression better than other journals. While this is true, altogether too many beekeepers have, on pretense of saving, cut out their journals. This is poor economy.

There has been no let down on the part of beekeepers in their efforts to prove that they have the right plan of getting rid of American foulbrood. Beekeepers are not waiting for inspectors to discover disease, but are in constant watchfulness on their own part. There has been so much change in attitude on the part of beekeepers in their interests that we feel assured they will show a greater interest in the United States Pacific Coast Station at Davis. They feel severely the loss sustained by the leaving of E. L. Sechrist. Many of us see that we were too well satisfied. We were getting good service and we thought it would continue. We lost track of the move of so many to cut expenses. We have suffered the loss and will realize that the responsibility for our future of the station lies with us. Another hopeful sign is the fact that notwithstanding the drawbacks caused by the depression our State Association is growing in strength and influence.—Cary W. Hartman, Oakland, California.

XUM

**NORTH DAKOTA.**—At this time of writing (July 7), conditions here at Fargo are satisfactory for honey production. Sweet clover, both the yellow and the white varieties, appear to be in bloom everywhere. Large fields of the bloom are to be seen on many farms, especially throughout the Red River Valley, and to a more limited extent further west in the state.

Since June 15 the colony on scales at the experiment station apiary has gained close to two pounds in weight per day, except for an occasional day of cloudy or rainy weather when the bees were not afield.

The outlook is indeed encouraging as compared with what it was in early spring. Prior to the break in the drouth, which occurred about June 1, dust storms were of almost daily occurrence and the weather was unusually hot and dry. These conditions, together with high windy weather, made the limited amount of bee pasture unavailable for gathering by the bees.

### A Shortage of Pollen in the Spring Curtailed Brood Rearing.

According to reports from beekeepers, colonies were exceedingly slow in building up to proper strength. Packages did poorly and there was greater loss of queens than usual. Swarming has not been a problem. One factor that seemed to have retarded brood rearing this season as much as anything else was lack of pollen. The weather for the most part being unsatisfactory for bee flight prevented gathering of pollen, and only colonies which were well stocked with pollen made satisfactory development. Colonies which did not have combs of pollen in their hives stored over from the previous year, even though well supplied with honey, made very slow brood development as compared with those which had adequate supplies.

The effect of weather on the gathering of honey was also reflected on the cross pollinating activities of the honeybee on fruit bloom. Apple orchards in close proximity to beeyards did not set fruit satisfactorily, the only apparent reason being that the trees were in bloom while the weather was unfavorable for bee flight, with the result that the blossoms were not visited as efficiently as though the weather had been normal.

At the recent meeting of the North Dakota Beekeepers' Association held in Grand Forks, beekeepers in attendance showed a keen interest in the work being done by the American Honey Institute. Many of those in attendance either contributed cash or gave pledges toward its support. Mr. J. D. McGregor, Lieutenant-Governor of Manitoba and an extensive beekeeper of the province, together with Prof. L. T. Floyd, provincial apiarist, were the main speakers from outside the state.

As the season for state and county fairs is now beginning in real earnest, it is of interest to note that bee and honey exhibits are becoming increasingly in evidence. According to reports that have been reaching this office, more interest is being manifested in bee and honey exhibits than ever before.—J. A. Munro, Fargo, North Dakota.

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**WYOMING.**—Reports from every section of the state indicate extremely dry conditions and poor outlook for a honey crop. Springs where range cattle have watered for the past 50 years have gone dry, and in many sections of the state stockmen have been forced to move their stock to new ranges.

On the 25th of June, I inspected 60 packages purchased this spring and many of them were on the verge of starvation. In ten of the packages I was unable to find a single cell of honey. The following day I fed 40 of them, hoping to tide them over until it rained. A good rain occurred a few days ago and the bees worked nicely for a time. Unless rains do occur, the packages will starve, as we can not feed them longer. Several irrigation ditches are dry and two of our yards had to be moved because of water shortage.

### If You Can't Work Bees, It Sometimes Helps to Fish a Little.

All rivers and streams are very low and fly fishing has been very good. I mention this because if you can't work bees it sometimes helps to fish a little.

Last month I put a live bee display in a local store window, and the storekeepers were surprised at the interest shown and the increased sales. Grocers are unable to secure enough honey to supply the demand.—C. H. Gilbert, Laramie, Wyoming.

**WISCONSIN.**—The crop prospect for Wisconsin is a general topic of conversation among beekeepers. In a recent survey of the state to learn the extent of the grasshopper infestation, attention was given to the honey flora. Prospects vary from a normal crop to nothing at all. It may be necessary to ask for relief feed to keep some colonies from starving.

The southern part of the state is in fair condition, due to recent rains. The eastern tier of counties along Lake Michigan have excellent prospects for a good crop. In the northern half of the state, particularly the northwest, there is slight chance of a honey crop and some beekeepers may even be forced to feed their bees.

### Recent Rains Improve Crop Conditions.

Conditions have been somewhat improved during the past week by heavy rains, and while the drouth situation is not so bad as it was, there is practically no hay. Many of the farmers in this region will have to ask for feed relief during the winter.

In addition to the drouth, northern Wisconsin has had the heaviest grasshopper infestation ever recorded. Hundreds of tons of feed have been eaten and pastures which normally carry a lot of white clover are practically bare. These pastures are now turning green due to the rain, but in many cases the new growth hardly appears above the ground before it is eaten by the hoppers. I have seen rye fields with 50 per cent of the heads bearing from one to three or four grasshoppers, and small plantings of rye have almost been completely destroyed within two or three days. Under these conditions there is little chance for clover and even the wild flowers are too few in number to produce enough nectar to support the colonies.

In some spots one finds a little white clover, but there is not the familiar tang in the air present when clover nectar is being secreted. In the eastern part of the state and even as far west as Madison, one frequently meets with almost a stifling odor from nectar not only from white clover but from alfalfa and sweet clover as well. These spots are scattered, however, and do not necessarily mean that all beekeepers will be able to secure a surplus.

No reports have been secured as yet on basswood, but there should be a good flow on the bluffs along the Mississippi River. The entire situation looks greatly improved over a month ago.

All beekeepers report last year's honey crop sold. As beekeepers haven't any honey to sell, there is no way of learning what the demand may be. Local activity can only develop with the new crop.

Winter losses of bees were very severe, and the total number of colonies for the state has been reduced from 10 to 20 per cent, but wherever possible, beekeepers have the inclination to build up to the original number. Without question, part of the crop will be of mixed flavors due to a lack of clover.—H. F. Wilson, Madison, Wis.

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**NEW JERSEY.**—Well! well! after suffering drouths in the summer and zero weather in the winter the weatherman has finally decided to give the New Jersey beekeepers a break. For the past two seasons the rainfall during the summer was so scarce that honey plants were unable to secrete nectar. If the weatherman continues his generosity for the remainder of the season he will not owe the beekeepers a pound of honey. Last winter he kept Old Sol from our hives so long that there was a very heavy loss among the colonies, perhaps 50 per cent or greater. Now he has Old Sol turned on full force which is making plants grow and at the same time intervening showers make conditions practically ideal for nectar secretion.

New Jersey has a wide variety of surface features — mountains, valleys, salt marshes and rolling plains, all with their own type of honey flow and adapted management. The best commercial sections of New Jersey are located in the northwestern part, Hunterdon, Warren and Sussex counties, where clover is a main crop and comes at midseason. Reports from that section seem to indicate that the crop is good, with more to come. In the suburban area in the eastern part of the state, where this is written, the honey comes mostly from wild flowers in the fall, but at the present time the bees are bringing in nectar abundantly. This is remarkable for this locality. We usually look for a dearth and some years, at this season, bees have been known to starve.

After such a cold winter, with a temperature of 20° to 25° below zero, many bees survived in fairly good condition. These have shown a tendency for much

swarming, which in a measure has served to put the beekeeper right back to where he was in regard to the number of colonies.

Selling honey is not the problem here that it is elsewhere. There are so many small beekeepers with their own small trade that they can easily dispose of what they produce at good prices. The farmer-beekeeper in the outlying districts disposes of a great deal through the roadside stands in a retail way, so it is very seldom that a New Jersey producer depends on a wholesale market.—John Conner, Caldwell, N. J.

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**KANSAS.**—For the last three-quarters of a year, Kansas as a whole, has been in a rather serious drouth. This drouth has continued through to the present time (July 7). There are two localities that have not been appreciably affected by drouth conditions, namely Doniphan and Atchison counties in the northeast corner, and the southeastern region of the state. In these two localities there have been timely rainfalls and as a result a honey crop will be obtained by the beekeepers there. In all probability the honey crop for the state will be the least that has been produced here since 1912 or 1913 at the time of the last serious drouth.

The main honey flow this year as last year is from white sweet clover and second cutting alfalfa which is allowed to go to seed. There is a very marked difference in localities in regard to honey production from yellow and white sweet clover this year. It does not seem possible that there could be such lines of demarkation in rainfall and the corresponding resultant nectar secretion from such environment. In Doniphan County plants are secreting nectar abundantly, whereas in the adjoining county on the west (Brown County) the crops are parched and brown. Some beekeepers have moved from nearby localities into Doniphan County in order to take advantage of the honey flow which was in progress during the month of June, and is undoubtedly continuing since weather conditions have been favorable.

The drouth affected early brood rearing to such an extent that there were only a few swarms and at the time the honey flow should normally begin colonies were weak. In parts of the state some of the larger beekeepers have reduced their number of colonies in order to better combat drouth conditions as a means of survival without too much expense. The number of colonies in the state has been reduced considerably during the past two or three years, due to unfavorable dry conditions. Many have become discouraged with the situation and also with that of low prices for honey and so have neglected their colonies with the result that they have died out during the winter or during the critical brood rearing period of May.

With the dearth of honey flows and scant amount of stores on colonies during the early brood-rearing period, much progress has been made in apiary inspection work. Colonies at many times during the past year have been down to almost no stores. Under these conditions American foulbrood would present itself if infected material was in the hive. The apiary inspection service has receievd no serious complaints since the new apiary inspection act of 1931 has been in force.

It seems a pity that the American beekeepers are allowing the American Honey Institute to die after the great amount of national advertising which it has brought about for the assistance of beekeepers. I think that all beekeepers should make an effort to support this Institute. Times are hard, but they are improving and the American beekeeper should not let such a far-reaching and helpful organization pass out of existence.—R. L. Parker, Manhattan, Kansas.

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**FLORIDA.**—Our real summer weather has arrived. We have plenty of moisture since the rainy season here in central Florida commenced several weeks ahead of the usual date. This was fine for the citrus crop but not so good for bees and especially the queenbreeders.

Plant conditions are normal. The partridge pea locally has a fine growth. Mangrove has a heavy bloom and is just commencing to open. Contrary to other honey plants it needs rain during the blooming period. Bees will work on it right after a heavy shower. This will be our last major source of surplus honey.

In northwest Florida the plants that furnish surplus honey have finished blooming. We have had sufficient rain for the summer plants such as Mexican clover (white pursley) and the velvet beans to stimulate brood rearing and help to furnish much-needed winter stores.

The condition of colonies here in cen-

tral Florida is not so good. In many instances bees are weak. Some complain that their queens have stopped laying. This was caused by heavy rains which made it impossible for bees to gather stimulating stores and pollen. The palmetto was a complete failure with us locally as far as surplus was concerned. In many cases not enough honey was gathered to keep up brood rearing. The condition of colonies is about 50 per cent of normal.

In the tupelo region bees are in fine condition. There was sufficient bloom from other sources after tupelo was over for bees to store some surplus and to keep the queens laying. This is very necessary as queens in the tupelo region usually quit laying during the summer. There is no reason why colonies will not go into winter in good condition.

In central Florida the surplus yield per colony so far is below last season, principally because of the failing of palmetto. Orange did very well and the quality is fair. Prospects are improving and there is more optimism among beekeepers than there has been for several years. Honey is selling well locally and at an advance in price, both retail and wholesale.—N. Forehand, DeLand, Florida.

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**IOWA.**—We have recently had the pleasure of two out-of-state visitors. Mr. Kenneth Hawkins of the G. B. Lewis Company, Watertown, Wisconsin, spent a portion of one day at Iowa State College on his way to Sioux City, Iowa, to check up on the loss occasioned by the severe flood in that vicinity. After the extreme drouth the rains came with such violence that the worst flood ever in that territory was experienced.

Mr. J. I. Hambleton of the Bee Culture Laboratory spent one day at Iowa State College, visiting the institution and the officials in charge of the various beekeeping activities.

It is necessary to record the death of several outstanding beekeepers of this state. Mention has already been made of the passing of N. Williamson, The beekeeping operations established by Mr. Williamson are to be continued by Mrs. Williamson.

Mr. Adam Clark of LeMars, Mr. R. L. Wert of Kellogg, and Mr. J. N. Edwards of Waterloo, have recently passed away. Mr. Clark was especially interested in developing the beekeeping library at the Iowa State College. Mr. Wert was an extensive comb-honey producer. His holdings have been taken over by L. G. Gartner of Titonka. Mr. Edwards was a successful sideline beekeeper, and an advocate of the middle entrance.

Honey flow conditions have been very interesting in this state this year. The white clover which was formerly so common in Iowa and was considered the major source of surplus honey has practically disappeared during the adverse years, especially the present year.

The yellow sweet clover has been increasing in its range very rapidly in the last five years. Part of this seems to be a natural spread along waste places, roads, and railroad right-of-ways. However, there has been some excessive spread due to the program of the Iowa Highway Commission in using this plant as a retainer against washing in some of the deep cuts where the new highway has been constructed. This plant has also attracted the attention of a good many farmers who want thoroughly reliable pasture for dairy stock especially, and for livestock in general. It is now possible to see wide areas of this plant.

White sweet clover has increased rapidly, although not as fast as a few years ago. It is used principally for pastures, and is a thoroughly reliable plant for this purpose. From the standpoint of the beekeeper this plant is now the source of the major surplus crop. Even in central Iowa where conditions have been the worst over the longest period of time this plant has secreted nectar and enabled bees to store surplus honey and even build up combs from foundation.

Basswood seems to be coming back in a good many sections of the state. This year the bloom was unusually profuse. Apparently conditions were ideal but it seems likely that the extreme heat was a detriment to nectar secretion.

The July issue of the Beekeepers' Bulletin published by the Extension Service of Iowa State College is an unusually interesting volume for honey producers. It contains a summary of the extension program of beekeeping for 1933 and anyone who is interested in honey production should obtain a copy of this in order to be familiar with the effort which is being made by the Extension Service in its educational campaign. The publication has been sent regularly to a large mailing list and is free upon request.

The question was raised the other day

as to whether there is a change in Iowa from sideline production to commercial production. It is possible to think that this is true for several producers have recently increased their holdings very materially and changed their status from sideline production to commercial production. This is especially true in the western half of the state where sweet clover is the major honey plant. It is evident that some of these producers have found honey production profitable. There is another factor which will have its influence this year. A good many sideline producers will not be able to continue in business with the adverse weather conditions which are prevailing. Only the best of producers will be able to withstand the season of 1934.—F. B. Paddock, Ames, Iowa.

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**OHIO.**—Up to June 15 we suffered from one of the worst drouths ever known in this section. Clover plants were fast drying up, but on the 17th we had a wonderful rain. More than three inches of rain fell in a very short time. The clover plants soon revived and from that time on bees in this rain area, which was very local, have done remarkably well. Our best colonies have stored up to the present time (July 4) 350 pounds per colony. The honey flow still continues to be heavy. White clover is in full bloom and with sufficient moisture will continue for at least three more weeks. Some of our yards outside this area are not faring so well.

Reports from some members of the Tri-County Beekeepers' Association have not been very flattering. One reports about 40 pounds per colony. All in all, we are going to get a good crop of very fine honey, which is very light in color and heavy in body and should demand the very best price.

The old stock of honey is all sold out. The outlook is very encouraging and beekeepers are wearing a broad smile, and well they may as we had two near failures the past two seasons. Some beekeepers have commenced to extract and all beekeepers will soon be busy.—Fred Leininger, Delphos, Ohio.

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**TEXAS.**—The weather for June over the large part of Texas has been unfavorable for bees. There have been some very light honey flows. Bees are living on the stores gathered during early spring. Horsemint burned up and mesquite did not bloom in either May or June. However, in some localities mesquite was commencing to bloom at the end of the month. Whether or not the bees can collect anything from it because of the extreme heat remains to be seen. Just what cotton will do under the conditions of extreme drouth and heat is a question. Cotton as a whole looks very prosperous and has a better show of blooms than it has had for several years.

### Huckleberry Honey Abundant in Some Regions.

East Texas and the cotton region will be the only parts of the state which will have a honey crop this year. The honey very largely came from hardwood trees and vines. The tree huckleberry made a wonderful bloom this spring and in many places where this honey is almost unknown local beekeepers have small stores of almost pure huckleberry honey. Because of the few beekeepers in the region where this tree grows and the long periods between heavy blooms this honey is prominent where honey yields are reported. Some of the oldtimers in East Texas say that such a yield comes about once in fifteen years.

A very interesting instance of how nature takes care of herself is to be seen around almost any bee yard in this part of Texas. The dry weather has eliminated almost all wild forms of hymenoptera, flies, and other insects which visit flowers. The robber flies, or bee hawks have been able to emerge in about their normal numbers and because of the fewness of wild insects these robber flies have congregated around bee yards. Four or five species are frequently found in abundance at a single apiary. These insects require from ten to fifteen bees per day for food and consequently they must reduce the strength of colonies considerably. When there is no honey flow, or hope of one, there is little reason for maintaining a heavy supply of worker bees, so the robber flies are doing no great damage to the beekeeper. On the other hand, the robber flies will have finished their life cycle and will have disappeared by the middle of August, the time when fall brood-rearing commences. This condition seems advantageous to both beekeeper and robber flies. The story, however, is very different in a yard where the beekeeper is doing his best

to requeen or to raise queens for the market.

Southeastern Bexar County and western Wilson County at one time rivaled Atacosta County for honey production. During this month a trip through what was once a heavy honey producing section of Texas showed that there are still large numbers of colonies in good condition. Interviews with the beekeepers were depressing, many of them stating that they had not secured surplus honey for the past three years and that they were disgusted with attempting to keep their bees in condition for a honey crop. Advice given them was that honey flows in Texas come when least looked for and such honey flows are generally extremely heavy. It will pay them to keep their bees alive and in working condition.—H. B. Parks, San Antonio, Texas.

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**MICHIGAN.**—A mighty short crop is the general rule in Michigan. The drouth is worse than in 1930 and the outlook for seedings is very poor. Rains came too late in many sections and not at all in others. A few favored spots have nearly a normal crop.

All interest focuses on the great Demuth Memorial meeting, August 1, 2, 3, and 4, and in spite of the short crop, a large attendance is expected.

Practically no honey has moved but producers anticipate a higher market.—R. H. Kelty, East Lansing, Michigan.

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**ONTARIO.**—A severe drouth in late May and early June was broken by a fairly general rain that came June 18. While the rainfall varied in different sections, we had over three inches on the 18th, and another inch a week later. As a result, those wonder-workers, heat and moisture combined, changed the picture for the farmers and incidentally made things a lot brighter for the beekeepers.

Our section has been a great producer of alsike clover seed for many years, in fact, my grandfather introduced this industry to our farmers many years ago. Naturally alsike was widely distributed and usually all meadows were well sprinkled with it, not to mention the many acres raised for seed. This season it is quite possible to drive miles and never see a head of alsike or white Dutch clover. Of late years alfalfa has been grown more and more. After the drouth of last August, alfalfa was about all that was left of the clovers, although more than half of it was winter-killed. Apparently alfalfa has never yielded much nectar in this locality. Owing to the higher price of all clover seeds, our largest local seed merchant advised all who had alfalfa worth leaving, to save it for seed purposes instead of cutting for hay. The acreage is much less than last year, yet more has been left for seed than during any former year and, of course, it is still blooming.

### Alfalfa is Yielding Nectar This Year.

The four inches of rain in June seemed to put our district in the irrigated class of farm lands, for alfalfa started to yield and is still giving a splendid honey flow. The honey appears to be equal in quality to any we have ever had. It is too early to predict what the crop will be, but normal colonies have stored about two supers to date.

Bees are in the worst condition we have ever experienced. Packages bought to replace winter losses have turned out poorly. Over 50 per cent of the queens have been superseded or lost since arrival. However, we are glad for this flow of nectar, because in addition to giving a nice crop to all colonies in shape to gather it, the packages will likely pay for themselves, if they do no more.

Eastern Ontario has been blessed with lots of rain. One commercial beekeeper reports a bumper crop, with alsike and white clover everywhere. West Ontario reports dry weather with no alsike, and a medium crop from colonies in condition to store.

Regulations passed recently by our federal government, make it compulsory to have all honey intended for export, inspected before being shipped out of the Province in which it is produced, and the term "export" includes movement from one Province to another. This inspection fee amounts to about one cent per 60-pound tin, and that would mean a bill of $8.00 for a car of 800 tins. While these regulations may be necessary, the average citizen is getting fed up on this organization business. I wonder if many of us do not at some time or other heave a sigh and wish that we might get back to the primitive life, away from all taxes, regulations, restrictions, etc.—J. L. Byer, Markham, Ontario.

# FROM FOREIGN LANDS

W. J. Nolan

"From Foreign Lands" originated in response to a personal request made by Mr. Demuth when he first joined the editorial staff of Gleanings. Although these columns have been interrupted at the convenience of the writer, it was Mr. Demuth's wish that they be continued. Mr. E. R. Root had the same desire, and so this is the first installment of a new series of foreign news notes.

That outstanding apicultural reviewer of Germany, Doctor Zaiss, once stated in a private communication, "Without doubt in every country those knowing languages should be concerned with the relationships between the nations." If through the medium of the beekeeping news presented in these columns a better understanding and appreciation of the various nations is promoted in the reader in some degree, the time spent in assembling and preparing the material will not have been in vain.

Within the past few years the American honey producer has felt the effects of a tariff on honey in other countries. The recent German tariff on honey caused a big decline in exports from this country in the period immediately following because Germany at that time was the best customer for American honey. Another potential market will probably soon be subject to a similar barrier. French beekeepers, according to recent issues of L'Apiculteur and L'Abeille Bourguigonne, are demanding a minimum tariff of 500 frs. per 100 kgs., about 15 cents per pound at the present exchange.

Of interest to readers of Gleanings is the fact that among reasons given for the necessity of this protection, French beekeepers point to the larger colony yields available in this country, the lower cost of production, and the devaluation of the dollar. However, our export statistics show that whereas we exported 319,000 pounds of honey to France in 1932, in 1933 this figure was only 133,000 pounds, although our total exports were larger than in 1932.

The importation of honey into France quadrupled in the period from 1929 to 1933. In 1933 about 6,000,000 pounds were imported, of which almost exactly half is reported as coming from French colonial possessions. At the same time an undisposed balance of 2,200,000 pounds is reported in Alsace-Lorraine alone. The annual production in all France is given as 33 to 44 million pounds, the number of colonies being two millions.

The present restrictions on the importation of honey into France are a duty of 3 cents per pound, an import quota, and a license fee on dealers in imported honey. This fee amounts to 1½ cents per pound, and is levied at the time the shipment is declared for customs. The import quota for the first quarter of this year was set at 550,000 pounds for industrial uses, and 220,000 pounds for current consumption. French beekeepers are objecting to this quota, and desire the amount for industrial purposes to be reduced to 110,000 pounds, and the quota for current consumption to be eliminated.

Anton Janscha is one of the great names in apiculture. Being only two years younger than George Washington, his 200th birthday was celebrated on May 20. Born in Carniola, of a beekeeping family but gifted as a painter, he went to Vienna in 1766 to study art. At that time, it is stated, he could neither read nor write, at least German, but he quickly learned to do both. In 1769 he was called to head the world's first beekeeping school, which was founded by Maria Theresa at Vienna. Within two years he was given a life appointment and soon had an assistant. The empress herself attended his lectures. The fame of the school quickly spread beyond Austria and beekeepers came even from Germany and Russia. Janscha inspired the empress to issue her famous "Patent of 1775" guaranteeing certain rights to beekeepers. By 1771 he had published a book, "Abhandlung über das Schwarmen der Bienen," which went into three editions within four years. Unfortunately, death closed his brilliant but brief career within two years after the appearance of this book. Before his death, however, he had completed the manuscript of a longer work which was published by his assistant, Münzberg, in 1775. Janscha was both an expert beekeeper and a keen observer. Thus he reported that the queen mates outside the hive, even before Huber's independent report of this fact in his book. It is only fitting that the Austrian Beekeepers' Union has decided (Bienen-Vater, May) to place a memorial tablet at the scene of his activities in Vienna.

**When the Laugh Is On Us.**

An expert beekeeper in Iowa who owns a large apiary and is very successful, tells this story on himself. When he got his first colony of bees his neighbor told him that the greatest menace to bees was the wax worms, and when the worms got into a colony they would destroy it. When he examined his colony in the spring he was dismayed to find a little worm in every cell in the center of the hive. He took it for granted they were wax-worms and accordingly cut out all comb containing larvae. He was greatly disappointed when his colony dwindled away and died.

Another beekeeper who is now successfully managing several hundred colonies of bees, came to me when he got his first bees, with a frame of brood, stating he was sure his bees had foulbrood. He had the comb carefully wrapped up in paper so my bees would not get the disease. I examined the comb very carefully but could find no trace of disease of any kind. He say, "May be it is on the other side." I turned the comb over when he exclaimed, "Yes, there is goes. See it. Is that foulbrood?" as a big fat wax-worm went scampering across the comb.

Years ago I was teaching stenography in the high school. One girl seemed exceptionally bright and quick to learn, so I had her come out to the house to do stenographic work. She soon got on to the vernacular and could use the bee terms perfectly. Thinking she would be interested in seeing the bees that she had been writing about, I showed her some comb honey about finished in the super. After looking at it a while she said, "Why, that is honey, isn't it? Did you put it in there?" I explained that the bees made it. Next I showed her the fences and section holders and explained their use. She was delighted and remarked, "Those litlte fences are beautiful, but I don't see how the bees can make them so accurate." I decided she understood the typewriter better than the bees.

Sometimes the joke is on us. Before I began beekeeping I lived in Wisconsin, where we got some extra fine white clover and basswood honey. My appetite was good and when we had hot biscuits I would eat a pound of comb honey and sometimes a pound and a half. After I left Wisconsin I was hungry for honey so got a section at a store. It did not taste like Wisconsin honey so I thought it could not be honey. I sent a sample to The Root Company and asked them if it was artificial honey. They replied that it was a good quality of sweet clover.

A few years I sold a case of white comb honey to a grocer. A man came in and the grocer tried to sell him some of my honey. He said, "I like regular bee honey, but all we get these days is cheap sugar that has been fed to bees." The grocer told him my honey was pure and gave him the name of the beekeeper who produced it. The customer said, "Why, I know that guy. He is as crooked as a dog's hind leg. He never raises a single flower for his bees but feeds them sugar entirely for making comb honey. Now, listen, for I know what I am talking about. A man at the freight depot told me this man bought

**"He nearly fainted when I handed him my card."**

nearly a ton of dirty sugar from them and paid only 2 cents a pound for it. He takes that dirty sugar and mixes a lot of water with it and feeds it to his bees. For every pound of sugar fed he gets two pounds of comb honey. Talk about graft! If that isn't graft, I don't know what the word means." At this point I became interested and told him I was glad to make his acquaintance for I never liked being defrauded and that I had eaten a lot of that honey myself, and thanked him for putting me wise. I asked him his name and invited him out to see me. In return he asked my name and where I lived. When I told him I thought he was going to faint. After pulling himself together, he stammered something about it being another fellow he was thinking of.

# Heads of Grain from Different Fields

### A Handy Tool Made from Long-Handled Spoon

One of the handiest pieces of equipment that I use is a sturdy, long-handled spoon. Made of wrought iron, it is about two feet long. The bowl is 4 inches wide and 5 inches long and somewhat convex. The cross piece at the end of the handle is about three and one-half inches long. The handle should be made of five-eighths inch

**Long-handled spoon of wrought iron for digging granulated honey out of large storage tanks, or scooping up cappings.**

material. With the idea in mind, and a rough pattern worked out, I went to a good blacksmith and had him make the spoon just as I wanted it made. Anyone who has tried to dig granulated honey out of a large storage tank knows how difficult this work is. But with the leverage afforded by the long handle on this sturdy spoon the task is considerably lighter. It is also excellent for use in scooping cappings. After using such a tool the owner will decide he has secured an excellent piece of equipment for a very small investment.—Benj. Nielsen, Aurora, Nebraska.

### Breeding from the Daughters of Hybrids

My experience with Caucasians is very much like that of W. A. Rowland's, reported in his interesting article on page 347 of June Gleanings. It is true, as the editor mentions, the daughters from Caucasian-Italian hybrid queens do not breed true to any great extent. Though the mother may be an exceptional queen, very few of her daughters will be her equal. On page 335, Mr. Latham states that daughters vary because of the queen being in a different state of vitality and environment. It is slowly being proven, however, that environment has no effect on the character of an individual. Heredity creates the characteristics of an individual at the moment of conception. Environment determines the direction and extent in which those characteristics are carried. Though the daughters of hybrids will vary greatly by continuing to breed from the best of these, the percentage of good queens will become greater with each generation.—Charles Mraz, Middlebury, Vermont.

### More About Quality Queens

Referring to Mr. Latham's article, page 334, on queen quality, also Mr. Pritchard's article, page 411, I find my best queens come from supersedure cells provided they are from a good strain of bees. In 95 per cent of the cases a poor strain of bees will produce a poor queen. Good drone stock also is necessary. I also find that the first two or three cells from colonies that have swarmed produce good queens provided the cells are of good size and from a good strain. I have secured better queens by this method than I have bought from a lot of queen breeders.—Alfred P. Johnson, Rankin, Illinois.

### Are You Wearing Glasses? Read This!

When it is hot, and the sun is shining hot, when the sweat is running, and your head is inclosed by your bee veil and your glasses are all steamed up—then when you can no longer see through those glasses—do not condemn the heat or your glasses, nor quit. Just clean your glasses and then tie a handkerchief around your head so it rests just touching the tops of

your glasses and the trouble of sweated glasses distorting everything you look at will be over for the day. With me it works like a charm. However, I carry two handkerchiefs. When one becomes wet I use the other. Possibly other beekeepers have discovered this stunt and make use of it. I have seen but one man working with bees use it, and he is my partner. Neither have I seen it in print. The man wearing glasses who will give the handkerchief a trial will find it a blessing.—Penn G. Snyder, Dayton, Ohio.

### Simple Watering Device

All careful beekeepers realize the need of a constant and reliable supply of water for bees. Especially is this necessary in the spring and fall seasons when a honey flow may not be on. When bees are located near cattle or sheep they are usually a cause of much annoyance in the stock watering tanks. Many are drowned in these tanks and this means a loss to the

Providing water for the bees.

beekeeper. The picture shows a simple, practical watering device to meet requirements and lessen the risk of bees molesting others. This device is made of a shortening can—any large can may be pressed into use. The capacity of this can is about five gallons, a convenient size, and is equipped with handles which make it much easier to handle. A burlap sack is placed in the can, one end of which hangs over the edge. The bees can alight, crawl on this burlap, drink, and not be drowned, as may happen at the tanks. If one is renting the apiary site or has his bees placed on shares where cattle or sheep have free range, it is something of a problem to secure water rights for the bees. This may be accomplished by protecting the watering outfit by means of wire or slat fence built to exclude the animals but proving no barrier to the energetic bees. —Benj. Nielsen, Aurora, Nebraska.

### Honey Makes a Good Souvenir

According to R. H. Jenkins of Philadelphia, Pa., beemen are overlooking a good business opportunity when they do not prepare small containers of choice honey, properly labeled, which may be sold profitbly to convention and tourist visitors. Each community has its own brand of honey. The word honey, combined with the name of the town, and the magic suggestion "souvenir," is an impelling selling force. An attractive jar with the right souvenir label will sell like wildfire during a convention. Mr. Jenkins runs three apiaries in the Pocono Mountains. These contain about 1000 hives. For convention meetings in Philadelphia small souvenir jars are made ready. It is not so much size or weight that counts but, rather, quality and attractiveness. "I easily get twice the price when honey is sold in such a manner," says Mr. Jenkins.—E. W. Sudlow, Coral Gables, Florida.

### An Early Queen

In the week of March 25, I was giving my bees the once-over to see how they had withstood the winter, and on looking through No. 2 I accidentally killed the queen. This queen had started laying and had some eggs and larva on one frame. I expected to unite this colony with another one, but on going to this hive about April 1, I found two good-looking queen cells started. As an experiment I left these cells, and on April 15 found them hatched, but did not have the time to hunt up the queen if there was a live one. I was taken sick about this time, and was not able to inspect the colony until about June 8. On looking through this colony we were surprised to find a nice queen laying. She had built up from a mere handful to a very decent colony and with a good supply of honey for brood rearing. About April 15 I had received from the South four nuclei that contained drones and I am wondering if this is how she became fertilized so early, as there was not at that time much brood in any of my colonies. I am watching this queen to see what the outcome will be this fall. I had not thought it possible to rear a queen here so early in the season.—H. R. Hicks, Condit, Ohio.

# Gleaned by Asking
## BY THE EDITORS

### What is Nulomoline?

Question.—My attention has been called to a new product called "Nulomoline," which is manufactured by the Nulomoline Co., Wall St., New York City. It is claimed that the product is a perfect substitute for honey, the only difference being that honey varies, and this doesn't. Is this a fact?—Webster Goodwin, Rhode Island.

Answer.—Nulomoline is a well-known product used by beekeepers all over the country when they prepare candy for putting into queen cages. It is true that this product is always constant in the proportion of levulose and dextrose, but it is not a perfect substitute for honey because it lacks certain mineral elements and certain flavors found in honey. As a rule, bakers prefer honey when it does not cost more than Nulomoline. We have used this product for years in the preparation of our queen-cage candy. It has an advantage over honey in that there is no possibility of transmitting disease through the candy. Honey might, unless it is thoroughly sterilized by boiling, contain bee disease germs and the boiling of the honey spoils it for making good queen-cage candy and, hence, Nulomoline is used almost exclusively for this purpose.

### Virgin Queens Disappearing

Question.—I have had quite a number of young queens disappear from our hives. The young queens emerged from their cells, but when they went on their mating flight they apparently never returned, for the hives would be found queenless and dwindling down in strength. We have many birds around here and I am inclined to think that the birds destroy the queens. We lost 16 virgin queens last summer. I had swarms that were superseding queen cells and now they are queenless. Do you have a solution to this problem?—Roy V. Canfield, Michigan.

Answer.—Kingbirds, bee martins, and a few other insectivorous birds prey on bees. There have been a number of conflicting reports as to whether kingbirds do or do not swallow their victims. Some have asserted that they do and afterwards expelled the ball of bees. At one experiment station a number of kingbirds were shot, and the conclusion, after examining their crops, was that they did not swallow bees. From observations that have been made since it appears that the kingbird does not generally swallow worker bees. We suggest that you spend a little time around your apiary to find out what kind of birds are present. If you find that birds are destroying your virgin queens you should use your shotgun until everything in the way of bee-killing birds is destroyed. By the way, your state bee inspector, Mr. C. D. Doane, of Lansing, Michigan, covers your state pretty thoroughly, and is familiar with conditions generally. He may be able to help you solve this problem.

### Yellow Sweet vs. White Sweet Clover

Question.—Does yellow sweet clover yield as much nectar and as freely as white sweet clover?—Donald Drushell, Ohio.

Answer.—Yellow sweet clover blooms about ten days or two weeks ahead of white sweet clover. The yellow is not considered quite so good as the white for honey. However, reports have been received from beekeepers who secure good crops from yellow sweet clover. There is little if any difference in the flavors of the two honeys. If farmers have both the yellow and white sweet clover, the honey flow is prolonged. It has been noted this year in some parts of central and western Ohio that there has been an increase in the acreage of yellow sweet clover, whereas the acreage of white sweet clover has decreased somewhat. Yellow sweet clover makes a better hay because the stems are smaller.

### Heating Honey During Extracting

Question.—Can you give me some advice regarding the heating of honey as it comes from the extractor? I expect to use an inch coil submerged in a tank of hot water, the honey to be forced through it by the honey pump. What kind of material can I use to make the coil without danger of poisoning the honey? Will copper or lead pipe be safe?—Seward Van Auken, New York.

Answer.—If you can get hold of some tinned copper pipe we would recommend this as the material to use for your honey coil. If you are unable to get the tinned copper, you should make your coil out of galvanized iron, pipe and fittings. Sometimes honey has a little action on copper or lead, although copper pipe, if you drain the coil each time, would probably be all right. It has been used considerably. We have never heard of any bad effects, although if you could get the tinned copper it would be better. No doubt you will have means for draining this coil, but as you say, some honey will invariably stick to the inside of the pipe. To be on the safe side and prevent burning of this small amount of honey, you should also have some means for draining the hot water away from the coil whenever you stop extracting for more than a minute or two. In other words, whenever you drain the

honey out of the coil, draw the water off so that the small amount of honey remaining in the coil will not be carmelized.

**Foulbrood Not Carried in Comb Foundation**

Question.—An old beekeeper here declares that the germs or spores of bacillus larvae are transmitted in foundation because they are not killed in the refining of the crude wax or combs. Have you some data to prove that the bacillus is killed in the process of making comb foundation?—Clay T. Davis, Missouri.

Answer.—It is the general opinion of scientific men and bee inspectors that comb foundation does not transmit disease. No reliable proof has been advanced that it does. One of the most striking instances recorded along this line is that of an experiment carried out by N. E. France, Platteville, Wisconsin, in his inspection work in that state. Mr. France reported that he and another beekeeper treated 100 colonies by shaking, then putting the combs into the honey house in the evening, rendering them and making the wax into foundation during the night. The foundation was then given to the bees the next day. He reported that there were no cases of recurrence even though the combs rendered were rotten with disease. Numerous other experiments of the same character have been carried out, thus establishing without doubt the fact that foulbrood is never carried in foundation.

**Honey is Foamy After Heating**

Question.—What makes extracted honey foam after being heated to keep it from crystallizing?—Criton Smelser, Indiana.

Answer.—In some cases the foam which forms on the top of honey when heated indicates slight fermentation, in which case the small bubbles are of gas formed in fermentation. In other cases, there are tiny air bubbles in the honey which rise to the surface on heating and form a foam. If the foaminess of the honey is caused from fermentation, the honey should be kept hot until the fermentation has passed off the honey. But remember this, that the longer the honey is kept the more danger of impairing its flavor. If the foaminess is caused from air bubbles, the honey should be allowed to stand until all of the air bubbles have risen to the surface of the honey and then the honey should be drawn off into containers. To retard granulation of honey, it should be heated to at least 160 degrees Fahrenheit and kept at that temperature for at least 20 minutes and then allowed to cool so that the air bubbles may rise to the surface. Some bottlers heat the honey again and put it into the bottles and seal the covers while the honey is hot.

**Young Queen Disappears After Being Introduced**

Question.—Last summer when I introduced a young queen she laid for one week. Then she was balled and disappeared. There were a lot of queen cells built. When the young queen from one of the cells mated the same thing happened. Now more hives are doing the same thing over and over again.—Henry Kroger, New York.

Answer.—We are at a loss to know what caused the colony to supersede its queen again and again. It is, of course, possible that each queen in succession was deficient, although this is hardly possible. Occasionally, a colony will supersede its queen for no apparent reason, and often such colonies are quite difficult to requeen. We have always considered such behavior as freakish.

**Bees Loafing at Hive Entrance**

Question.—When bees hang out in front of the hive during the day, are they always loafing, or is it because they have nothing gathered? They have plenty of comb room, large entrance, and shade during the heat of the day. —Bro. Stephen Babek, Arkansas.

Answer.—The most common cause is too small an entrance during hot weather. The entrance may be wide open but too small for the colony and the weather. You do not say whether or not the other colonies in the apiary are working. We rather think that your bees are waiting for something to do other than loafing. As a rule, a normal colony of bees will gather nectar when it is obtainable. Possibly conditions for nectar secretion are not favorable in your locality at the present time. A colony that is preparing to swarm may loaf for a time prior to the issuing of the swarm. Sometimes a colony is accused of loafing when, as a matter of fact, the bees do not have any comb space for the storage of incoming nectar. This is not the case with your colony. Then, too, some colonies lack vigor. In other words, they are not industrious. They are like some people. In this case, the only thing to do is to remove the old queen and introduce a young queen from an industrious strain of bees.

**The Time Swarming Occurs**

Question.—Are colonies likely to swarm at the time they reach their peak of strength, or at the beginning of the main honey flow?—Iver C. Andersen, Minnesota.

Answer.—The time bees are likely to swarm depends somewhat upon the nature of the season. Sometimes colonies reach their peak of strength prior to the beginning of the major honey flow. When this occurs and when there is a light honey flow on, strong colonies may swarm. Quite often, however, colonies do not reach their peak of strength until the beginning of

(Continued on page 504.)

# Talks to Beginners

M. J. DEYELL

A month ago many regions were in the midst of a severe drouth. Toward the end of June this drouth was broken in some regions, especially the eastern and middle-western states. Some beginners have been made happy by a good honey flow from clovers and basswood. Others are experiencing a drouth and their bees are storing little if any surplus honey.

## August an Important Month for Beginners

There is a wide variation of conditions in beekeeping throughout the United States and Canada. For instance, in the alsike and white clover regions, the white honey flow usually comes to a close in late July or early August. In some of these regions there is a fall honey flow from buckwheat and goldenrod. It is quite important that beekeepers remove their white honey from the hives before the dark honey flow starts. The buckwheat honey flow, in regions where buckwheat is grown extensively, starts about the middle of August. The goldenrod honey flow may not start until the last week of the month.

In large portions of the sweet clover and alfalfa regions the honey flow lasts well into August. In such regions there is not, as a rule, a flow of dark honey following the white honey flow. Beekeepers can therefore leave their honey on the hives until it is well ripened, without danger of having it mixed with dark honey.

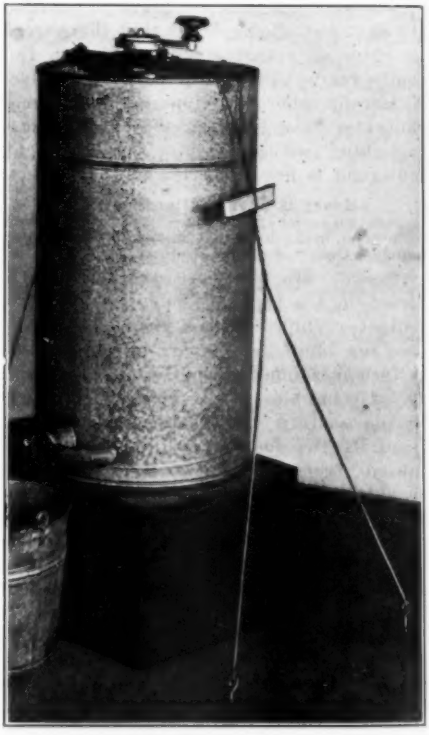
## Removing and Marketing White Comb Honey

It is very necessary to remove white comb honey from the hives as soon as the sections are capped, and before they become travel-stained. It is a little difficult at times to get the unfinished sections completed at the close of the clover honey flow. To do this, the comb-honey supers should be taken off and all the finished sections sorted out. The unfinished sections should be put together in supers and given back to strong colonies to be finished. It is an advantage to give only one super of unfinished sections to one colony so that the bees may concentrate on a relatively small amount of sections at the close of the honey flow.

In preparing comb honey for the market, all of the propolis should be scraped from the edges of the sections. The sections of honey should then be placed in shipping cases. These should be kept closed to keep out ants and other insects. Some beekeepers wrap comb-honey sections in cellophane. This permits the prospective buyers to see the honey in sanitary and appetizing packages. A moderate amount of comb honey can be disposed of locally at grocery stores or direct to honey customers in the community. Comb honey should be stored in a warm dry room since it will absorb moisture if stored in a damp atmosphere.

## Taking Off and Marketing Extracted Honey

Extracting combs of honey should not be removed from the hives until they are at least three-fourths capped over. A small honey extractor, such as is shown, can be used to good advantage. The picture illustrates an easy method of anchoring the extractor. Details of extracting were given in the July Talks to Beginners.



**Method of anchoring the extractor to the box and the floor by means of ordinary bailing wire.**

Extracted honey may be stored in tin or glass containers. Many beginners are marketing their extracted honey at roadside stands. An attractive honey sign will

**An attractive roadside sign will help dispose of the surplus crop.**

dispose of a considerable amount of honey. It pays to use attractive clean containers and to have the honey crystal clear and free from bits of wax and foreign matter. In the early fall, the honey may be run from the honey tank into containers without being heated, but later it may be necessary to heat the honey to retard granulation before putting it into containers.

Some beginners are selling their extracted honey direct from the honey tank, weighing it out for customers who bring their own containers. This method of selling saves the cost of containers, labels and paste. This saving can be passed on to the honey customers. It is surprising how much honey can be sold by this method, if the beginner will let the public know that he has the honey to sell. An occasional advertisement in the local papers during the fall months may dispose of practically the entire crop.

### Major Honey Flow May Come in August

In some regions, especially throughout the East, where buckwheat constitutes the major source of nectar, the main honey flow starts during this month. When there is a dearth of nectar prior to this honey flow it is difficult to have colonies ready for it. When conditions are favorable good crops are obtained. There is a market for good buckwheat honey. As a rule, colonies in buckwheat regions are well supplied with winter stores. The bees put considerable honey in the brood chambers during August and September.

### August May Bring a Dearth of Nectar

In other regions, there may be practically a dearth of nectar sometime in August, between the clover flow and the later fall honey flow. Enough honey should be left with each colony to insure a continuance of normal brood rearing. In some instances, beekeepers remove all of the supers at the close of the white clover honey flow, and, consequently colonies are at the point of starvation during this dearth of nectar and thus brood rearing is curtailed. Such colonies are not ready to take full advantage of the fall honey flow when it comes. When comb honey is produced there is considerably more honey in the brood chambers at the close of the season than when extracted honey is produced. It pays to leave a food chamber, that is, a super well filled with honey on each hive, in addition to what honey there may be in the brood chamber. This extra honey helps to insure strong colonies at all times.

### Preparing for Next Season

In some respects, August is the most important month of the year in the management of colonies. It is during this month that preparations are made for the coming season's honey crop. It should be remembered that the young bees produced during August and September and early October are the bees that survive the winter.

### Requeening When Necessary

It has been said that the queen is the soul of the colony. Without good queens it is impossible to produce the maximum crop of honey. August is a splendid month for requeening. All beginners should examine their colonies carefully. Old queens that lack vigor and do not lay normally should be removed and replaced with

young vigorous queens. Introducing new queens is not difficult if directions are followed closely. Occasionally, however, there may be a colony that refuses to accept a new queen. Queens are accepted more readily during a honey flow than during a dearth of nectar.

Some beginners try to rear their own queens. Queen rearing is an art not so easily acquired. However, some beginners derive much pleasure from rearing their own queens. The grafting of larvae, that is, lifting the very young larvae out of the cells and placing them in artificial queen-cell cups is not so difficult as it may sound. The beginner who decides to rear his own queens should make a study of this subject before attempting the work on even a moderate scale. There are some good books on this subject.

**Comb Space for Fall Brood Rearing**

In some localities there is a steady honey flow during this month. Some beginners may fail to give their colonies supers for the storage of incoming nectar and for brood rearing. As a result, colonies become honey-bound, that is, the bees store the cells in the brood chamber so full of nectar that there is practically no comb space left for brood rearing. Such colonies may swarm out if the honey flow continues, or they may practically fill the brood chamber with honey so that the queen has no room to lay. Such colonies are likely to go into winter quarters with a shortage of young vigorous bees. Supers should be supplied as needed during the month of August to secure surplus honey if there is a honey flow and also to provide comb space for brood rearing. This is very important.

**Importance of Food-Chamber Hive**

Beekeepers that use food-chamber hives will probably have strong colonies throughout the season.

When we first began using the food chamber in the Root Company apiaries, we kept each queen below a queen-excluder placed over the brood chamber during the fall months. At present, we place the queen-excluder over the food chamber, thus giving each queen the run of two sets of combs. In the fall when additional comb space is needed, we place supers over the queen excluder, which, as we have already stated, is put on top of the food chamber By this method the two stories below the excluder are used for brood rearing and the storage of honey for winter. This simplifies the management of colonies devoted to extracted honey production.

**What Size of Food Chamber to Use**

We have found that the deep food chamber is preferable in regions where there is no fall honey flow. In localities that give a fall honey flow, the shallow extracting super makes a good food chamber. Where fall honey is plentiful bees store considerable honey in the lower hive or brood chamber proper. The one big advantage in using the deep food chamber is that the combs in the food chamber are interchangeable with the combs in the brood chamber.

**The Care of Extracting Combs**

Frequently combs that have had honey extracted from them are stored away in the honey house after the summer honey flow. Moths may get into these combs and destroy them. Carbon bisulphide can be used for treating moth-infested combs. The beginner should put supers of empty extracting combs on hives so that the bees can take care of them. The bees will clean them up and prevent their being damaged by the wax moths until cooler weather when they can be taken off and stored. When they are finally piled up in winter quarters they should be made bee tight as well as mouse proof so that they may be in good condition when needed the following season.

**Feeding May be Necessary**

In the drouth regions where colonies are making a bare living, it may be necessary to feed colonies sugar syrup, to tide them over until nectar from natural sources is available. During the season of 1930, which was the first of the drouth years, our bees around Medina made a scant living during the summer. During July and early August colonies did not store any surplus. It looked as though we would have to feed the bees for winter. During the third week in August, rain came, and on the 27th of August the goldenrod honey flow started. Honey soon began to pour into the hives, and in three weeks from that date our scale hive made a gain of 75 pounds. And so, at the last minute, even though it was quite late in the fall, colonies filled up their hives including the brood chambers, as well as producing some surplus honey.

Beginners in the drouth area should feed sugar syrup if necessary in order to have their colonies in good condition to take advantage of a honey flow that may come later in the season.

# Just News

**Editors**

Mr. M. A. Gill, an outstanding citizen and well-known beekeeper of Hyrum, Utah, passed away on June 20. Mr. Gill was born in Strykerville, New York, in 1852. Early in life he became interested

**Mr. M. A. Gill, taken on his eightieth birthday, with his son, D. A. Gill.**

in bees. He was one of the most successful comb-honey producers of his generation. His writings on beekeeping have appeared in bee journals frequently. Mr. Gill leaves his widow, three sons and three daughters, as well as a host of friends.

The Missouri State Fair, to be held August 11-18, will have attractive apiary exhibits, including extracted and comb honey. Liberal awards are offered. Write Secretary Charles Green, Sedalia, Mo., for premium list.

The Empire State Honey Producers' Association, with the Schenectady County Beekeepers' Association, and the Hudson Valley Society of Apiculture co-operating, will hold their annual picnic at White Sulphur Springs House at Berne, New York, Saturday, August 11. Berne is located in Helderberg Mountains on Route 43. There will be ample room for camping, tables, swimming pool, bathhouse. Meals and lunches will be served, if desired. All beekeepers invited.

The summer field meeting of the Ohio Beekeepers' Association will be held August 9 and 10, at Columbus, Ohio. On August 9, the beekeepers will meet at 9 a. m. at O'Shaughnessy Dam, 15 miles northwest of Columbus, on Route 257. Free camping grounds, free parking, a nearby restaurant, swimming pool, and the Columbus Zoo are some of the attractions. Interesting and instructive talks will comprise the day's program, while the evening is set aside for a beekeepers' supper at Wyandotte Inn. Beekeepers will meet at 9 a. m., at college apiary on the second day. The program for the second day's meeting includes a tour of inspection to several large apiaries.

### The Valdosta Meeting, Beekeepers' Congress, December 17, 1934

The time and place for the meeting of all people interested in beekeeping in North America has been set for the week of December 17, 1934, at Valdosta, Georgia. The Southern States Beekeeping Conference, as the host organization, wishes to extend to you an urgent invitation to come into the deep South and enjoy the get-together. Come and participate in the joint meeting of the American Honey Institute, the American Honey Producers' League, and the Southern Conference. For a more convenient term, may we call it really the American Beekeepers' Congress?

Southern hospitality will be there to greet you all. The beekeepers of the South are working together to make the clustering at Valdosta a most profitable and enjoyable one. Bring your family along so that they may share with you the interesting sights in the deep Southland.

We are asking you to place a red pencil mark around the week of December 17 on your calendar.—W. E. Harrell, President, Southern States Beekeeping Conference.

## EDITORIAL

(Continued from page 459.)

a drouth and the beekeeper should show his farmer friends that it is to his interests (the farmers) to grow both sweet clover and alfalfa. These legumes should be on every farm where there is lime in the soil. Then when a drouth comes on, the farmers will have green forage for their cattle and hogs and the beekeeper will prosper.

Alfalfa is following fast in the wake of sweet clover in many of our states. The Grim alfalfa does well in the East and it is a good honey plant.

With five years of drouth in succession the farmer and beekeepers should wake up. It is vitally necessary for the beekeeper to encourage the farmer to put in the long-rooted legumes instead of so much red clover and timothy.

For several years the Root Company's apiaries in western Ohio have been getting an exceptionally fine honey from a source after sweet clover had turned brown. This source was yielding one and two full-depth supers of honey. We thought at one time it came from red clover second crop; but it is now reasonably certain that it came from the variety Grim alfalfa that the farmers have been putting in all over the state.

By the token of a wet soil a foot down below the parched top, the old-fashioned basswood has been yielding around Medina—some good old-fashioned basswood honey with a tang to it. It was the kind that A. I. Root secured 65 years ago when he had such a flow of honey from basswood that he was going to build cisterns to hold his crop. Basswood had not been cut off then.

### Too Many Queens Are Superseded

For many years queens have been sent to customers in packages of bees shipped by mail and express. Years ago the queen was sent loose with the bees in the package. This was quite possible when the queen was taken from the same colony from which the package of bees was shaken. When the queen sent with the package is taken from a different hive, a queen mating nucleus, as is the case quite generally, she can not be dumped in with strange bees without danger of being killed. For some time it has been customary to cage the queen with a few attendant bees, safe in an ordinary mailing cage hung among the bees in the shipping cage. This method has been fairly successful—at least the customer knows when he removes the queen cage whether the queen is alive or dead. Some beginners have difficulty, however, in picking out the queen among the worker bees in the queen cage.

There have been some reports from receivers of package bees that queens after being introduced to the package bees either disappear or are superseded after they lay a few eggs. This means a loss to the buyer of packages. Some shippers are now sending queens in dry cages, that is, queen cages with no candy or attendant bees. It is assumed that the bees in the shipping cage feed the queen in the dry cage lavishly through the wire screen and thus she is more likely to reach destination in good condition and to be accepted by the bees when introduced. This appears to be a step in the right direction.

However, there are other possible reasons for early supersedure. It may be due to improperly reared queens of inferior quality. Frequently weather conditions are far from being ideal for queen rearing. A temporary dearth of nectar and pollen may result in queens of low vitality. A cold spell of weather may interfere with the normal development of queens. There may be a shortage of drones of the proper mating age. It is difficult, if not impossible to rear genuinely good queens when conditions for queen rearing are not right.

Then there is the matter of proper food for queens from the time they are caged until they reach destination and are introduced. Is sugar syrup a satisfactory substitute for nectar and pollen? It may not be. If it isn't, may not this deficiency of natural food impair the qualities of a queen and cause early supersedure?

Some queens sent with packages make good records. May not this be due to the conditions that obtain at the time queens are prepared for shipment? When nectar and pollen are abundant the bees shaken into a combless package are filled with nectar. They have enough food in their sacs to last three or four days. Under these conditions the queen receives ample food of the proper quality. On the other hand, when there is a scarcity of nectar bees in the package resort to the sugar syrup food.

This problem of early supersedure will have to be solved, or the package bee and queen business may take a slump.

# Sell and Buy Here

## CLASSIFIED ADS

**Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.**

### HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

CHOICE white clover honey in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

White and light amber extracted honey in new 60's. Harry T. Gable, Romulus, N. Y.

WATER-WHITE clover honey now ready. Edward Klein, Gurnee, Ill.

CHOICE Michigan clover honey, new 60's. David Running, Filion, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CHOICE light extracted honey, in 60-lb. cans, 6c per lb. F. O. B. Roaring Branch, Pa. David Conn.

WHITE clover honey packed in new sixty-pound cans. Fred D. Lamkin, King Ferry, New York.

WHITE clover extracted honey. Write for prices and sample. Kalona Honey Co., Kalona, Iowa.

MICHIGAN'S finest well ripened white honey in new 60's. Sample, 15c. Jay Cowing, Jenison, Mich.

NEW crop white clover, both comb and extracted, ready to ship, any amount. F. J. Smith, Castalia, Ohio.

TUPELO HONEY—Will not granulate. Shipped in any quantity. Anthony Bros. Honey Co., Apalachicola, Fla.

FINE quality orange, palmetto and mangrove honey in new sixties. Sample, 6c. Peter W. Sowinski, Fort Pierce, Florida.

FANCY white comb, $3.25 case; No. 1 white, $2.75; No. 2 white, or No. 1 amber, $2.25; white clover extracted, 7c. C. B. Howard, Geneva, N. Y.

NEW crop section comb honey, nice white stock securely packed in carrier crates of four and eight cases. The Colorado Honey Producers' Association, Denver, Colo.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

RASPBERRY HONEY—In 60-lb. cans, for $6.00 a can. In 10-lb. cans by mail, postpaid up to and including fourth zone, for $2.00 a can. Sample by mail, 20c. Elmer Hutchinson & Son, Lake City, Mich.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

**STOLLER'S** excellent quality clover honey, finest obtainable. Cut comb and extracted. Write the Stoller Apiaries, Latty, Ohio.

WHITE clover comb honey. Charles Guhl, Napoleon, Ohio.

FOR SALE—Clover extracted. F. W. Lesser, Fayetteville, N. Y.

NEW crop comb and extracted honey. Porterholm Apiaries, Adrian, Michigan.

EXTRA fine clover extracted honey. Ready now. Ross B. Scott, La Grange, Ind.

FOR SALE—New crop clover honey in new cans. Ray C. Hiltner, Continental, Ohio.

NEW crop clover extracted honey in new sixties. D. R. Townsend, Northstar, Mich.

FINEST new crop white clover honey in new 60-lb. cans. Noah Bordner, Holgate, Ohio.

WRITE me for prices and samples of honey. I can please you. Thos. D. Sherfick, Shoals, Ind.

CHOICE Michigan 1934 clover honey, new 60's. L. S. Griggs, 711 Avon St., Flint, Mich.

FOR SALE—New crop white comb honey, $3.50 per case of 24 sections. H. G. Quirin, Bellevue, Ohio.

FOR SALE—New crop white clover comb honey, finest ever produced. N. B. Querin & Son, Rt. 4, Bellevue, Ohio.

HOWDY'S HONEY—Comb by carrier and extracted in new sixties by carlot or less. Howard Potter, Ithaca, Michigan.

CLOVER-BASSWOOD blend honey, well ripened, in new 60-lb. cans. Sample on request. B. B. Coggshall, Groton, N. Y.

OHIO'S finest white clover extracted honey. Sample, 10c. Prices upon request. The Cloverdale Apiaries, Cloverdale, Ohio.

EXTRACTED white clover honey in 5-lb. pails and 60-lb. cans, 1-lb. sample, 20c, new crop. F. W. Summerfield, Grand Rapids, Ohio.

FOR SALE—New crop fine white clover honey. Price on request. Sample, 15c. Jos. H. Hoehn & Sons, Ottoville, Ohio.

FINE quality, white and light amber honey, in new cans nad cases. Any quantity, case or carload. E. L. Lane, Trumansburg, N. Y.

1934 CROP clover honey. Extracted in 60's, 7c per pound. Comb in eight-case carriers. Fancy, $3.50; No. 1, $3.00 per case. Walter A. Wood, Naples, N. Y.

NEW clover comb honey, in eight-case carriers, $3.25 per case, No. 1 grade; No. 2, $2.75 per case. Extracted, two 60-lb. cans to the case, $9.00. Sample, 15c. Chas. B. Hatton, Andover, Rt. 2, Ohio.

COMB and extracted honey, heavy fancy white comb, $3.25 per case; fancy white, $3.00; light amber, $2.75. Clear white clover extracted, 7c lb; light amber, 6½c lb. Carlton D. Howard, Ovid, N. Y.

NEW crop finest Michigan clover honey, in new cans and cases, at $10.00 per case of two sixties. Crop rather short. The wise buyer will contract for his supply early. E. D. Townsend & Sons, Northstar, Michigan.

## HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

TUPELO honey wanted. Earls Barrick, Miller, Mo.

WANTED—White clover honey, car lots. Morrison, 548 West 22nd St., New York, N. Y.

WANTED—Comb and extracted honey. Mail sample, state quantity and price. Sherfick Farms, Shoals, Ind.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

CASH paid for dark grades of honey. Reference, Merchants Bank, Grayslake, Illinois. C. Jankowski, Gurnee, Illinois.

WANTED—Honey from California, Oregon, Washington, Idaho beekeepers. Priced Tacoma or Puyallup. Send samples. Sherman Whitney, Puyallup, Washington.

WANTED—Honey and beeswax. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. California Honey Company, Hamilton & Company, Agent, 108 W. Sixth St., Los Angeles, California.

## FOR SALE

SAVE queens. Safin cages now 15c; ten for $1. Allen Latham, Norwichtown, Conn.

TWO-FRAME reversible extractor, nearly new. Arthur Albertus, Chamberlain, S. Dak.

TWO Root four-frame reversible extractors. Porterholm Apiaries, Adrian, Mich.

FOR SALE—One 2-frame reversible Root extractor; takes Jumbo frames. Leonard S. Griggs, 711 Avon St., Flint, Mich.

ELECTRICAL comb honey cutting knives, uncapping knives, $10.00 each; with thermostat, $14.00. Paul Krebs, 8000 Fulton Ave., Detroit, Michigan.

COMB HONEY CARTONS, send for samples, odd lots at low prices. Give size and quantity you can use. A. G. Woodman Co., Grand Rapids, Michigan.

FOR SALE—Comb foundation at money-saving prices. Plain, wired, and thin section. Wax worked at lowest prices. E. S. Robinson, Mayville, N. Y.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

CIDER and grape presses, graters, pumps, screens, supplies. Free catalog B tells how to keep cider sweet and make vinegar quickly. Cider and honey make a good roadside stand combination. Palmer Bros., Cos Cob, Conn.

FOR SALE—Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

## BEES AND QUEENS FOR SALE

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from diseases, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

"SHE-SUITS-ME" queens, see cut on page 510. Allen Latham, Norwichtown, Conn.

PURE Italian queens, good producers and gentle. One to nine, 70c; 10 to 24, 65c; 25 to 49, 55c. A. M. Kelly, Bell, Fla.

FOR SALE—Forty colonies bees and equipment at bargain price. Guaranteed no disease. E. S. Robinson, Mayville, N. Y.

THREE-BANDED Italian bees and queens that are real honey gatherers and gentle to work with, at code prices. Alamance Bee Co., Graham, N. C.

GOLDEN Italian queens that produce good workers, gentle to handle, at code prices. Untested, 70c; tested, $1.40. D. T. Gaster, Rt. 2, Randleman, N. C.

EXTRA yellow Italian queens at lowest price permitted by Code; 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, Rt. 2, N. C.

REQUEEN now with Caucasian queens. They winter better, are better honey gatherers, gentle and prolific. Queens, 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each. Package bees at code prices. P. B. Skinner Bee Co., Greenville, Ala.

MOUNTAIN Grey Caucasian queens, bred from the very best long-tongued strain. A trial order will convince you of their merits. Untested queens, 1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 or more, 50c. Safe arrival and satisfaction. Lewis & Tillery Bee Co., Greenville, Ala.

CHOICE bright Italian queens that are a pleasure to work with and be proud to own. The stock has been bred and selected in the North the past 31 years for good winterers, hustlers, gentleness and fine color; 85c each; dozen, $9.00; breeders, $6.00. Emil W. Gatekunst, Colden, N. Y.

GOOD queens for summer and fall requeening. We are producing close to 2000 a month of the kind you can depend on for your next season's crop. Gentle, prolific, evenly marked three-banded Italians. Annual requeening pays, and the satisfaction of having the finest stock the country affords in your yards is worth the cost. Select young laying queens, 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 to 99, 50c each. Usual discounts for larger quantities. No disease. H. C. Short, Fitzpatrick, Alabama.

## ROOT EXTRACTOR COLUMN

(A free advertising service to Root customers who wish to dispose of their present extractors as they are purchasing Root machines of greater capacity.)

FOR SALE—Root 4-fr. automatic reversible hand extractor, 9½" baskets. Used 5 years; in good condition, $30. John Kneser, Hales Corners, Wis.

## MISCELLANEOUS

BEST bee hunting outfit. Grover, Bristol, Vermont.

WANTED—To trade bee supplies for the following: honey and beeswax. Hubbard Apiaries, Onsted, Mich.

WANTED—100 to 200 colonies ten-frame equipment, for cash. Give description, lowest price. M. A. Smith, 14563 Coyle, Detroit, Mich.

(More classified advertisements on page 504.)

## TOO LATE FOR CLASSIFICATION

FOR SALE—Light amber clover in new 60's. E. Dubiel, Trumansburg, New York.

WANT—Chunk comb and extracted honey. A. J. Heard, 267 Oxford Place, N. E., Atlanta, Ga.

WANTED—Comb and extracted honey. Mail sample and prices. Wm. Feltz, R. R. 2, Michigan City, Ind.

FOR SALE—Extra fine, new, white honey. Packed to suit your trade. Earl M. Alexander, New Paris, Ohio.

WRITE for prices on new crop white clover extracted comb and chunk honey. H. E. Crowther, Jefferson, Ohio.

CLOVER, white and light amber, in 60-lb. cans and 5-lb. pails. C. J. Baldridge, Kendaia, New York.

EXCELLENT flavored light clover extracted honey, also a limited amount of comb honey. Write for prices. Leo Zimmerman, Rt. 13, Dayton, Ohio.

# FOR SALE

**Back volumes of Gleanings, complete, bound volumes from 1873 to 1894. From 1894 volumes not bound, but tied together. From 1903 to 1913, only 72 numbers missing. One copy missing in 1923. All other years complete. Make me an offer. Flora McIntyre, 1334 Wellington Ave., Pasadena, California.**


# Garon's Bright Honey Fed Italian Queens

Are gentle, large and prolific. Great honey-gatherers and long-lived. August and September are the acceptable months for requeening. You will make no mistake by using our "Diamond" queens.

Prices—1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-249, 45c; 250 or more, 42½c.

HEALTH CERTIFIED RESPONSIBILITY PROMPT SHIPMENT SERVICE SATISFACTION HONESTY

**GARON BEE CO., Donaldsonville, La.**

# While Our Stock Lasts

## The A. I. Root Co.

Medina, Ohio

## We Had a Stock of

THREE-PLY Foundation with slight imperfections which we offered at a reduced price, but the demand was so great we had to recall the offer.

## We Now Can Make the Offer Again from Medina Only

## 50 Sheets

Slightly imperfect

## Three-Ply Foundation

The best for worker brood.

## $3.15

Mailing wt. 9 lbs. Not postpaid.

# CAUCASIANS

Extra gentle, prolific, long tongue, little swarming, dependable workers—10% to 40% ahead of Italians. Wintered here out-of-doors and bred in a climate like their native land—severe winters—cold windy springs—thus insuring their good qualities. Foundation stock from mountainous province of Terek, Caucasus.

## *Carniolans*

Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolan queens headed colonies producing 435 lbs. extracted per colony over the whole yard. 27 years with them. Have supplied many State Agricultural Colleges and Experiment Stations with them. My own and Jan Strgar imported strain.

**Lowest code prices on queens. Untested queens, 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each.**

Both races withstood the past severe winter better than Italians. Both races build up more readily during the unfavorable springs of our eastern states and are ready for the early flow. Both these races will improve your Italians in gentleness and honey gathering. August is still a good month to do general requeening and to replace any old and failing queens.

## *Albert G. Hann*

Glen Gardner New Jersey

**Get EDWARDS METAL ROOF PRICES**

Protect your buildings from fire, lightning, wind and weather before advancing costs force next price raise. Ask for Catalog 84. . . . Send roof measurements.

**THE EDWARDS MANUFACTURING CO.**
833-883 Butler Street Cincinnati, Ohio

**PATENTS—C. J. WILLIAMSON**
Attorney for The A. I. Root Co.
Munsey Bldg. Washington, D. C.

# Pure Italian Queens

**NOTHING BUT THE BEST**
**70 CENTS EACH, AS LONG AS THEY LAST.**
**GRAYDON BROS., Rt. 2, GREENVILLE, ALA.**

# QUEENS BY RETURN MAIL

**BRIGHT THREE-BANDED ITALIANS**

Send me your orders. I rear queens to please and gain your patronage. Try them at the price. If you are not satisfied, return them and I will replace or refund your money. You are the judge. All queens guaranteed purely mated and to reach you in good shape.

**Untested Queens—1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c. Tested queens double the price of untested queens.**

| | 1-9 | 10-24 | 50 or more |
|---|---|---|---|
| 2 lb. pks. | $2.15 | $2.05 | $1.95 |
| 3-lb. pks. | 2.80 | 2.70 | 2.60 |

F. O. B.

John A. Norman, Ramer, Ala.

Box 113

# QUEENS

# QUEENS

**OUR RELIABLE 3-BANDED ITALIANS**

Send me a trial order. I rear queens to please and to give you satisfaction. Try them at the price, and if they don't prove to be as good as any that you have ever used, I will refund your money. All queens guaranteed to be pure mated and to reach you in good shape.

1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 or more, 50c. 2-lb. pkgs. with queens, $2.15.

The Norman Apiaries, Lapine, Ala.

**FIRST-CLASS JOB PRINTING.**

**THE A. I. ROOT CO., MEDINA, O.**

# AN S. O. S. FROM HOLLOPETER

To Our Beekeeping Friends: We are too busy rearing queens, taking off and putting on supers, to write much, but we wish to remind you that REQUEENING time is here. Good young queens with plenty of good stores, put a good profit in keeping bees. Nature has been quite generous here; plenty of rain and sunshine, a continuous nectar secretion since hard maple, basswood just over, sweet clover still yielding, buckwheat just ahead, bees have something to gather until frost comes, which make IDEAL CONDITIONS for producing the BEST QUEENS. Orders have taxed our capacity, but most all have been filled promptly, and will be returned immediately if unable to fill on time. The busier you keep us the better we like it for we find our greatest pleasure working with bees. Send your orders right along and if this is not your busy year, prepare for the next for one extreme often follows another. J. B. Hollopeter, Queenbreeder, July 14, 1934.

**Choice untested Italian queens, 70c each; ten, $6.50; 25, $13.75; 50, $25.00. Safe arrival and satisfaction guaranteed.**

## WHITE PINE BEE FARMS, Rockton, Pa.

**With Gleanings since 1911.**

## Better Bred Italian
# QUEENS!

**AUGUST, THE BEST MONTH OF SEASON TO REQUEEN.**

Our queens are bred from the very best stock by well tried methods under my own personal supervision, in an ideal location. Will trade queens for wax or suitable merchandise.

**Queens—1 to 9, 70c; 9-24, 65c; 24-49, 55c; 50-100, 50c; 100-249, 45c; 250 or more, 42½c.**

All orders filled promptly.

## Calvert Apiaries
**Calvert, Ala.**

---

## Stevenson's Golden Italians

**The bees and queens of quality that have proven their worth as honey producers and their ability to winter well. In addition, they are so gentle that it is a pleasure to work with them.**

**Our method of raising queens produces large, uniform, beautiful queens that are as good as the best.**

**Don't get stung. Just buy our gentle honey-producing goldens; for,**

Remember well and bear in mind,
Better bees and queens are hard to find.

**Code prices. Write for circular.**

**Stevenson's Apiaries, Westwego, La.**

---

## NORTHERN BRED QUALITY ITALIAN QUEENS

**AT CODE PRICES.**

World war veteran, specialized in bees under Government supervision; have certificate of graduation. Satisfaction guaranteed. Try my queens.

**ALVA MORRISON, GROVER HILL, OHIO**

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# Things You Should Know

We are in the queen and package business to make an honest living. We have no sideline to detract our attention. We are not the best shipprs in the South. But we think we are as good as the best. If you are in doubt of this statement, try our 24-hour service on queens and package bees for this month. If we fail to render this service your money will be returned same date received. This service does not include Sunday. If you have not been receiving this service, give us a trial and be convinced. We feel that we can make this guarantee by anticipating your needs months in advance.

We breed the Three-banded Italians only.

**CODE PRICES FOR AUGUST**

**QUEENS: 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each.**

**PACKAGES: 2-lb. package with queens, 1 to 9, $2.15 each; 10 to 49, $2.05 each; 50 or more, $1.95 each. 3-lb. with queen: 1 to 9, $2.80 each; 10 to 49, $2.70 each; 50 or more, $2.60 each.**

## Shaw & Homan
**Shannon, - - Miss.**

---

## MOTT'S NORTHERN-BRED ITALIAN QUEENS

**Practically non-swarming—not "hooey."** August, September, 75c each; 25, 70c each; 50, 65c each; 100, 60c each. Select tested, fair to good breeders, $2.00, $3.00, $5.00 each. Virgins, 45c each. Free list. Satisfaction guaranteed.

**E. E. MOTT & SON, Glenwood, Mich, U. S. A.**

---

# Dependable Italian Queens

Our summer and fall flow has begun, making natural conditions ideal for queen rearing.

**INSTANT SERVICE**

Orders received by noon are shipped same day.

**PRICES FOR BALANCE OF SEASON:**

| 1-9 | 10-24 | 25-49 | 50-99 | 100-249 | 250 or more. |
|---|---|---|---|---|---|
| 70c | 65c | 55c | 50c | 45c | 42½c |

## J. E. WING, Cottonwood, California

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## Queens-WHY NOT NOW-Queens

**Try our honey gathering strain, pure Italian stock. They are sure to please you. Untested queens, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each. 2 lbs. queenless pkgs., $1.45 each. F. O. B. shipping point. Other pkgs. at code prices. Write us.**

## Honey Bee Apiaries, Sandwich, Ill

## GLEANED BY ASKING

(Continued from page 493.)

the main honey flow. When this occurs, and when strong colonies are supered in ample time to avoid congestion within the hives, swarming is not so likely to occur. The writer is of the opinion that swarming is brought on largely through a lack of providing supers in ample time. In other words, congestion within the hive is the prime cause of swarming. If this congestion can be avoided by supering properly and in time swarming may be largely controlled, especially in the production of extracted honey.


## HONEY LABELS

**30 Designs**

**Write for samples.**

**THE A. I. ROOT CO., MEDINA, O.**

## None Cheaper! None Better!

**When all queens are the same price, why not have the best? They will make a big difference in your honey crop. July is the ideal month to requeen. We are prepared to make prompt shipment on all orders.**

**1 untested, 70c; 10 or more, 65c each; 25 or more, 55c each; 50 or more, 50c each; 100 or more, 45c each; 250 or more, 42½c each.**

Certified and accredited by Alabama Department of Agriculture.

**J. M. Cutts & Sons**

**Rt. No. 1. MONTGOMERY, ALA.**

# Queens

**—BY RETURN MAIL—**

**AS GOOD AS MONEY CAN BUY**

Order NORMAN BROS. bright 3-banded Italians. Our large yellow selected honey-gathering strain will prove to your satisfaction and help to increase your honey profits. Our aim is if better queens are to be reared, we will rear them, as we spare neither labor nor expense. Safe arrival and satisfaction guaranteed.

**PRICES JUNE 1 TO OCTOBER 31**

**Untested Queens—1-9, 70c; 10-24, 65c; 25-49, 55c; 50 or more, 50c. Tested queens double price of untested queens.**

**Norman Bros. Apiaries, Ramer, Ala.**

**CLASSIFIED ADVERTISEMENTS**

LETTERHEADS, envelopes, lowest prices, quality considered. Samples, prices free. Beekeepers' Printing Company, 1010 Eighth, Watertown, Wis.

BEEKEEPERS—Improve sources of nectar by planting vitex trees, or seed. Two-year- old trees, 40c; one-year-old trees, 25c. New tested seed at $1.00 per ounce. All prepaid. Joe Stallmith, Galena, Kansas.

## Ellison's Queens

**Perfection of beauty, quality and service. Book your order in advance, and get them on time. Most orders are shipped within 24 hours after receipt. Code prices for balance of season are as follows: 1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c. Guarantee no disease and quick service.**

**O. G. ELLISON, BELTON, S. C.**

# STOLLER'S

## THRIFTY QUEENS

Bred for honey production—large and beautiful—heading vigorous producing colonies. They are very gentle.

**SELECTED UNTESTED—1-9, 70c; 10-24, 65c; 25-49, 55c; 50 up, 50c.**

Pure mating, safe arrival and satisfaction guaranteed. Health certified. A strain worthy of its name.

**The Stoller Apiaries**

**Latty, Ohio**

## CONTAINERS-

**FOR COMB AND EXTRACTED HONEY**

**Several carloads are in stock to assure you of prompt shipment.**

**A COMPLETE LINE OF TIN AND GLASS**

**Sixty-pound cans**

**Five and Ten Pound Pails**

**Two and a half pound cans**

**TWELVE sizes and styles of glass jars.**

**COMB HONEY PACKAGES**

**Wood Glass Front Cases**

**Corrugated Cases**

**Window Cartons**

**Plain Cartons**

**Cellophane**

**NEW PRICE LIST NOW READY**

**The A. I. Root Company**

**OF IOWA**

**COUNCIL BLUFFS, IOWA**

## Queens of the Best Quality

With our queens you can reduce swarming. With our queens you can reduce winter loss. Our bees have never been exposed to disease. Prompt shipping and high quality make it pleasant for our customers. Untested: 1 to 9 queens, 70c each; 10 to 24 queens, 65c each; 25 to 49 queens, 55c each; 50 or more, 50c each. Tested queens, double the price of untested.

**TAYLOR APIARIES, Luverne, Ala.**

## Moore's Strain

Leather Colored Italian Queens

NORTHERN BRED

1 to 9 ..... .....70c each
10 to 24 .....65c each
25 to 49 .....55c each
50 or more .....50c each

World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed. Circular free.

**J. P. Moore**

MORGAN KENTUCKY

## Finest Italian Queens

IMMEDIATE SERVICE
SATISFACTION GUARANTEED

1-9, 70c; 10-24, 65c each; 25-49, 55c each; 100 or more, 45c each; 250 or more, 42½c each.

PLENTY OF PACKAGE BEES

Two-lb. with queen—1-9, $2.15; 10-49, $2.05; 50-99, $1.95; 100 or more, $1.75½; 250 or more, $1.65¾.

Three-lb. with queen—1-9, $2.80; 10-49, $2.70; 50-99, $2.60; 100 or more, $2.34; 250 or more, $2.21.

CITRONELLE BEE CO.
CITRONELLE, ALA.

IMPORTED

## "Master-Bred"

ITALIANS

Our breeders come direct from Italy. Queens—1-9, 70c; 10-24, 65c; 25-49, 55c; 50, 50c; 100, 45c each.

THE V. R. THAGARD CO., Greenville, Ala.

## HOW ARE YOUR QUEENS?

Are your colonies weak and run down? Brood in only a few combs? Ready to double up any day? Requeen and put new life into them. Much has been said about queens, but

FOREHAND'S 3-BANDS ARE BRED RIGHT.

Untested Queens—1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 to 99, 50c; 100 to 250, 45c.

N. FOREHAND, DE LAND, FLORIDA, ROUTE 2

## *Great Beemaster Chart*

We have few of these large charts left. We will send one FREE with a one or two year subscription to GLEANINGS IN BEE CULTURE. Some exceptionally interesting articles have been planned for the fall months. Tell your friends about it. 1 year, $1.00; 2 years, $1.50; 3 years, $2.00. (Foreign and Canada, 1 year, $1.25; 2 years, $2.50; 3 years, $2.75.)

*Gleanings in Bee Culture, Medina, Ohio*

# Do Your Bit for the Institute

**Oscar Schmidt, President Michigan Beekeepers' Association.**

Oscar Schmidt writes:

"Enclosed find $100.00 for my 1933 contribution to American Honey Institute. If we would increase the per capita consumption of honey we must support the Institute."

The "Three Musketeers," David Running, Floyd Markham, and Oscar Schmidt, set the pace when the Institute was first founded, by giving $1.00 per ton and put Michigan "on the spot." A glance at the Honor Roll will tell how well they have succeeded. Others can proudly point to similar records. How about you, Mr. Beekeeper? Get right with yourself today. Fill out the Pledge below and mail it RIGHT NOW. You will never regret a dollar spent on the Institute.

American Honey Institute,
300 Commercial State Bank Bldg., Madison, Wisconsin.

I pledge my support to the work of the AMERICAN HONEY INSTITUTE for 1934. (Basis $1.00 per ton of honey produced; or 20 pounds of honey per ton, delivered to nearest Institute Honey Receiver).

( ) I will send my check direct to the Institute.

( ) I will send the honey to.....when ready.
Receiver

Estimated amount of money $.....or honey.....lbs.

Date payable.....

Name .....

Address .....

**Mail to American Honey Institute, State Bank Bldg., Madison, Wis.**

# QUALITY BRED ITALIAN BEES AND QUEENS

• • •

We offer you unsurpassed quality, young bees, select queens, on time shipments, large quantities, full weights, light cages, safe arrival and satisfaction.

CODE PRICES

Two-pound Packages Italian Bees with Queens, Express Collect

| 1 to 9 | 10 to 49 | 50 to 99 | 100 to 249 | 250 or more |
|---|---|---|---|---|
| $2.15 each | $2.05 each | $1.95 each | $1.75½ each | $1.65¾ each |

Three-pound Packages Italian Bees and Queens, Express Collect

| 1 to 9 | 10 to 49 | 50 to 99 | 100 to 249 | 250 or more |
|---|---|---|---|---|
| $2.80 each | $2.70 each | $2.60 each | $2.34 each | $2.21 each |

Queens by Mail Postpaid

| 1 to 9 | 10 to 24 | 25 to 49 | 50 to 99 | 100 to 249 | 250 or more |
|---|---|---|---|---|---|
| 70c each | 65c each | 55c each | 50c each | 45c each | 42½c each |

For queenless packages, deduct price of queens. For shipment by parcel post, add 20c per package, plus postage. For larger packages, add 80c for each additional pound of bees. Place your order now for choice of shipping dates and have your bees when wanted. Full line of Lewis Beeware and Dadant's Foundation at catalog prices.

• • •

YORK BEE CO., The Universal Apiaries Jesup, Ga.

WALTER T. KELLEY

I Will Accept in Advance Settlement

# WAX - HONEY

OR WHAT HAVE YOU?

In Trade for My Bright Italian Queens

Approximately 2 pounds of good quality beeswax or a gallon of clover honey prepaid to my station will buy a queen. Do not ship me honey or wax without first sending me a sample, stating the amount, how packed, etc., and getting my exact offer.

Wax or honey received at either PADUCAH, KY., or HOUMA, LA. Write me at either address.

Cash prices on queens are: 1-9, 70c; 10-24, 65c; 25 to 49, 55c each; 50 or more, 50c each.

**The Walter T. Kelley Co., Paducah, Ky., or Houma, La.**

Formerly operating as Gulf Coast Bee Co., Houma, La.

**Wanted Amber Extracted Honey**

Send Samples and best price Frt. Paid to Cincinnati, O.

**THE FRED. W. MUTH CO.**

# A Good Rule to Go By

BUY YOUR QUEENS AND BEES FROM

## Alabama Apiaries

**MT. PLEASANT, ALABAMA**

Italian queens and bees accredited by Alabama Dept. of Agriculture. We support the American Honey Institute. Queen-breeding our specialty. Over 15 years' experience. Queens bred for gentleness, beauty and honey-gathering qualities. Your order is filled the day it is received No delays.

**Queens—1-9, 70c; 10-24, 65c; 25-49, 55c; 50 up, 50c.**
**2-lb. pkg. with queen—1-9, $2.15; 10-49, $2.05.**
**3-lb. pkg. with queen—1-9, $2.80; 10-49, $2.70.**

## ITALIAN QUEENS

CARNIOLAN QUEENS
CAUCASIAN QUEENS

**Reared in different yards several miles apart. Can also send first cross of them.**

**Code Prices: Untested, 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each.**

RONALD KIRK
**ROCKTON, PENNSYLVANIA**

# QUEENS!

**Guaranteed good layers.**
**All queens mailed promptly.**
**Prices as follows, postpaid:**

| | |
|---|---|
| 1- 9 | 70 c each |
| 10- 24 | 65 c each |
| 25- 49 | 55 c each |
| 50- 99 | 50 c each |
| 100-249 | 45 c each |
| 250 or more | 42½c each |

**Pure mating, no disease and satisfaction guaranteed.**

**The Growville Apiaries, Winnsboro, Rt. 1, La.**

## SMITH'S

**Superior three-band Italian queens. As good as money can buy. 1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100 up, 45c.**

**N. B. Smith & Co.**
**CALHOUN ALABAMA**

# Our Queens

ARE GIVING

## Satisfaction

"The queens I purchased of you last spring are simply wonderful. Their bees are beautiful, strong and the finest honey-getters by far I have ever had." B. O. West, Rochester, Indiana.

"Last fall I purchased my first queen from you and her colony produced more honey than all my other colonies and her bees are the most gentle of the lot." Ralph E. Gibson, Westville, New Hampshire.

"The bees produced from your queens are certainly beautiful to look at, enjoyable to work with, and wonderful honey getters." Brodie E. Higley, Underwood, New York.

**YOU WILL LIKE THEM, TOO.**

**Prices: Untested, 1 to 4, $1 each; 5 to 9, 95c each; 10 to 24, 90c each; 25 to 49, 85c each; 50 to 99, 80c each; 100 or more, 75c each. Breeding queens, $7.50 each, service guaranteed.**

Certificate of health furnished with each shipment. We accept honey in exchange for queens, allowing twelve queens to each case of 120 pounds white extracted honey, freight prepaid.

Write for our free book, ABOUT BEES.

## JAY SMITH

**Route Five Vincennes, Indiana**

*Big Demand for*

Root QUALITY

# QUEENS

**Has Exceeded All Expectations.**

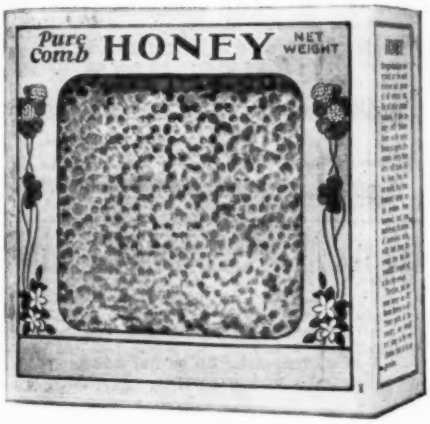
Honey producers have selected Root Queens because they produce bees that have honey-gathering qualities, are gentle and are hardy.

*Booking Orders Now for September*

## THE A. I. ROOT COMPANY

**MEDINA, OHIO**

# Good Prices for Your Honey




Depend on—
—Neatness
—Attractiveness
—Quality, Etc.
••
**ROOT**
Honey Containers Attract Buyers

| | 4¼x1⅞ | 4¼x1½ | 4x5x1⅜ | 4¼x4¾x1⅜ |
|---|---|---|---|---|
| Window Cartons | 7234 | 7233 | 7235 | 7236 |
| Regular Cartons | 7274 | 7273 | 7275 | 7276 |

100, $1.15; 500, $5.00. Shipping weight, 6 lbs. per 100.
100, 75c; 500, $3.25. Shipping weight, 6 lbs. per 100.
Regular Cartons for 4x5x1½ and 3⅝x5x1½ at $3.50 per 500. Window cartons for same, at $5.50 for 500.
IF BY MAIL, ADD POSTAGE.
For printing name on carton, add to regular price: 100, $1.50; 500, $2.25; 1000, $3.00.

## MODERNISTIC JARS

Attractive
Correct in Design
Same Price as Round or Panelled Jars

## The A. I. Root Co.
Medina, Ohio

## -Mountain Gray Queens-

**For June or Later**

Ten years of selective breeding of Caucasians only enables us to offer stock that we believe will please you. Our bees are gentle and easy to handle. Many high producing records to their credit. Select untested queens: 1 to 9, each, 70c; 10 to 24, each, 65c; 25 to 49, each, 55c. Select tested queens, 1 to 5, each, $2.25, postpaid and guaranteed to please.

**Bolling Bee Co., - Bolling, Ala.**

Latham's Queens
"She-Suits-Me" Queens
are line-bred three-banded
Italians
This strain of Italians is unsurpassed in tongue-length and also in nectar gathering
1 untested laying queen 80c
6 for $4.50 12 for $8
Allen Latham
Norwichtown
Green Hayes-Road Conn.

## Winter WITH HOWELL'S QUEENS

PUT THEM IN NOW. 1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 or more, 50c each. Good quality ITALIAN Queens.

D. W. HOWELL, SHELLMAN, GA.

## Try the E. A. Simmon's Apiaries

**GOLDEN ITALIAN QUEENS**

There are none better. They have given satisfaction for over 30 years. Caged the day they are shipped. Ready to lay when you get them.
1 to 9, 70c each; 10 to 24, 65c each.

E. A. SIMMONS APIARIES, Greenville, Ala.
Powell Owen, Mgr.

## Berry's Reliable 3-Banded Italian Queen Bees

**Reared by Berry in Person**

READY FOR IMMEDIATE SHIPMENT SELECTED QUEENS ONLY
FORTY YEARS OF SELECT BREEDING

Having several apiaries for honey production located in the north central states as well as Canada gives us an opportunity to test our strain from a climatic as well as honey production standpoint. Queens showing marked points of superiority we have returned to us to be used in our queen-breeding yards.

**Selected Warranted Purely Mated Queens**

**1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 and up, 50c each.**

10% off of lowest price above on lots of 100 and up; 15% off of lowest price above on lots of 250 and up. Wings of queens clipped free of charge.

Safe arrival and satisfaction guaranteed. Quality of our queens is the best to be had. Accredited and certified by the State of Alabama and backed up by the U. S. Government under the Code.

**M. C. BERRY & COMPANY Box 684 MONTGOMERY, ALA.**

## Morrison's Northern Queens

**STRICTLY THREE-BANDED STOCK**

If you want Italian queens with years of selecting and breeding back of them (23 years of experience) for gentleness, honey gathering, less swarming and capping their honey white, requeen with Morrison's line-bred stock.

**UNTESTED**..1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 or more, 50c ea.
**BREEDERS** ..... $5.00 each

Pure mating, safe arrival and perfect satisfaction guaranteed.

**George Morrison, Cloverdale, Ohio**

# Thrifty Bees

••

**PILE UP EXTRA SUPERS OF HONEY.**

That's why they are guaranteed to please. We can make prompt shipment of queens. Our **THRIFTY** three-banded Italian bees are accredited and certified by Alabama Dept. of Agriculture.

Fuller & Fuller of Penna., have this to say about **THRIFTY bees:** "We have used your queens for several seasons, and find that they outstrip, in honey gathering, any others we have so far received from other breeders." **THRIFTY** bees will help make this a more profitable season for you.

**Prices of untested queens are: 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 up, 50c each; 100, 45c each; 250, 42½c ea.**

Forty-three years' experience enables us to serve you better. Wire your rush orders. We will ship C. O. D.

••

## W. J. Forehand & Sons

**Fort Deposit, Ala.**

**Breeders since 1892.**

# JENSEN'S

**"MAGNOLIA STATE" THREE-BANDED ITALIANS**

## *Right Now Service*

**It is our policy to treat every one fairly, and to make no claims we can not substantiate. You have a right to the truth in advertising as well as in the quality of the product itself. Our customers' recommendations speak louder than our own ballyhoo. Our business is bees and queens. Successful, because through our efforts to improve our strain, you are succeeding with them.**

✪

Ashcroft, B. C., Canada, July 6, 1934.

"Dear Sir: Received fifteen queens shipped on the 2nd. Queens and all attendants arrived alive. You are the promptest shipper of queens I have ever tried. Have bought queens from you off and on for past ten years and they have averaged well. I may have to increase the original order yet."

✪

**Prices balance of season: Select untested, 1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-249, 45c; and 250 or more, 42½c each. Package bees at code prices.**

**Jensen's Apiaries, Crawford, Miss.**

# MERRILL'S QUALITY QUEENS

## —42½c Each—

In quantities of 250 or more.

**REQUEENING TIME** **OUR 25TH YEAR**

**Check over your bees and replace all old queens with MERRILL'S QUALITY QUEENS. You will profit by using them. We have reared about HALF A MILLION QUEENS, and we are trying to make them better for you each season. Requeen now and get a larger honey crop next season.**

**QUEEN PRICES**—Italian Queens, 1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-250, 45c; 250 or more, 42½c.

## MERRILL BEE COMPANY

**Mississippi's Oldest Shippers.** **BUCATUNNA, MISS.**

# Knight's

## Dependable Queens

**Line-bred, Three-banded Leather-Colored Italians, Accredited and Certified by Alabama Department of Agriculture.**

They are extra large, producing large bees, and are the best honey gatherers, gentle and prolific. All queens are carefully reared, and my breeding queens are selected with the greatest care.

**All queens guaranteed mated pure.**

PRICES POST PAID

**Select (one grade)—1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50, 50c; 100, 45c each.**

No charge for clipping. No disease. Health certificate. Safe arrival and satisfaction guaranteed. Prompt shipments.

**Jasper Knight, Hayneville, Alabama**

Accredited and Certified by Alabama Department of Agriculture.

# HARRELL'S

*for*

# QUEENS

THREE-BANDED ITALIANS

1- 9 .....70c each
10- 24 .....65c each
25- 49 .....55c each
50- 99 .....50c each
100-249 .....45c each
250 up.....42½c each

*Order Now*

**W. E. HARRELL**

Hayneville Alabama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